RECORD OF DECISION

Computer Circuits Corporation Superfund Site

Suffolk County, New York

United States Environmental Protection Agency
Region 2
New York, New York

September 2008

DECLARATION

SITE NAME AND LOCATION

Computer Circuits Corporation Superfund Site
Hauppauge, Suffolk County, New York
Superfund Identification Number: NYD125499673

STATEMENT OF BASIS AND PURPOSE

This decision document presents the Selected Remedy for the Computer Circuits Corp. Superfund Site (hereinafter, the Site) located in Hauppauge, Suffolk County, New York. The Selected Remedy was chosen in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA), and, to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP).

This decision is based on the Administrative Record for this Site, which has been developed in accordance with Section 113(k) of CERCLA, 42 U. S. C § 9613(k). The Administrative Record file is available for review at the Smithtown Public Library in Smithtown, New York, and at the United States Environmental Protection Agency - Region 2 Superfund Records Center at 290 Broadway, New York, New York. The Administrative Record Index (Appendix III) identifies each of the items comprising the Administrative Record upon which the selection of the remedial action is based. The State of New York, acting through the New York State Department of Environmental Conservation (NYSDEC), concurs with the selected remedy.

ASSESSMENT OF THE SITE

The response action selected in this Record of Decision (ROD) is necessary to protect public health or welfare or the environment from actual or threatened releases of hazardous substances from the Site into the environment.

DESCRIPTION OF THE SELECTED REMEDY

EPA will address the Site contamination as one operable unit. The selected remedy involves remediation of soil and indoor air through the continued operation of two separate soil vapor extraction (SVE) systems. Each SVE system will be operated in a distinct source area, namely areas surrounding the former industrial cesspools, and will also mitigate vapor intrusion by extracting vapors collecting below the slab of the building on the Site property. Remediating these contaminated soils will also result in the improvement of groundwater quality, as the soils are currently contributing to the low-level groundwater contamination.

The selected remedy includes the following components:

- Treatment of Soils by operating SVE systems: Residual contamination will be treated using SVE systems in two distinct areas where former industrial cesspools were located. In addition, the SVE systems will remove contaminants from below the slab of the building on the Site property, thereby addressing vapor intrusion into the indoor air of the building;
- Implementation of a Long-Term Groundwater Monitoring Program: A long-term groundwater monitoring program will be conducted, and samples will be collected from selected monitoring wells to monitor background contaminant concentrations and ensure that the soil contamination on-Site is not significantly impacting groundwater;
- Implementation of Institutional Controls: To protect human health and the environment from exposure to the existing contamination while cleanup is ongoing, institutional controls will be established as appropriate, and may include the filing of an environmental easement and/or restrictive covenant to, at a minimum, require: (a) restricting the use of the property to commercial or industrial uses, (b) restricting new construction at the Site unless the potential for vapor intrusion is evaluated and, if necessary, mitigated, and (c) restricting groundwater use as a source of potable or process water unless groundwater quality standards are met;
- Development of a Site Management Plan (SMP): An SMP will be developed to address soil, groundwater, and indoor air at the Site and would provide for the proper management of all Site remedy components;

- Implementation of Engineering Controls: Engineering controls, such as housing each SVE system, will be implemented to prevent inadvertent exposure to Site contaminants and to protect the integrity of the remedy; and
- Conduct Five-Year Reviews: Since hazardous substances may remain at this Site, pursuant to Section 121(c) of CERCLA, EPA will review the selected remedy no less often than every five years after the initiation of the remedy.

DECLARATION OF STATUTORY DETERMINATIONS

The Selected Remedy attains the mandates of CERCLA Section 121, and the regulatory requirements of the NCP in that it is protective of human health and the environment, complies with Federal and State requirements that are applicable or relevant and appropriate to the remedial action, is cost-effective, and utilizes permanent solutions and alternative treatment or resource recovery technologies to the maximum extent practicable.

The Selected Remedy satisfies the statutory preference for treatment as a principal element of the remedy (i.e., reduce the toxicity, mobility, or volume of hazardous substances through treatment). The selected remedy is a permanent remedy that treats the soil and thereby removes the source(s) of indoor air and groundwater contamination. The SVE systems will reduce the mass of contaminants in the subsurface, thereby reducing the toxicity, mobility, and volume of contamination.

Hazardous substances are not expected to remain at this Site above levels that would prevent unlimited use and unrestricted exposure. However, if hazardous substances do remain at this Site above such levels for at least five years, then, pursuant to Section 121(c) of CERCLA, EPA will review site remedies no less often than every five years after the initiation of the remedy.

ROD DATA CERTIFICATION CHECKLIST

The following information is included in the Decision Summary section of this Record of Decision. Additional information can be found in the Administrative Record file for the Site, the index of which is presented in Appendix III of this document.

- Contaminants of concern and their respective concentrations (See ROD, pages 6,7,8 and Appendix II, Table A)
- Baseline risk represented by the chemicals of concern (see ROD, page 10 and Appendix II, Tables A - F)
- Remediation goals (e.g., cleanup levels) established for chemicals of concern and the basis for these levels (see ROD, page 19)
- A discussion of source materials constituting principal threats may be found in the "Principal Threat Waste" section. (see ROD, page 39)
- Current and reasonably-anticipated future land use assumptions and current and potential future beneficial use assumptions for groundwater used in the baseline risk assessment and ROD (see ROD, page 9)
- Anticipated land and groundwater use that will be available at the Site as a result of the selected remedy. (see ROD, page 41)
- Estimated capital, annual operation and maintenance, and total present-worth costs, and the number of years over which the remedy cost estimates are projected (see ROD, pages 35 and 39, and Appendix VI)
- Key factors that led to selecting the remedy (i.e., how the selected remedy provides the best balance of tradeoffs with respect to the balancing and modifying criteria, emphasizing criteria key to the decision) may be found in the "Comparative Analysis of Alternatives" and "Statutory Determinations" sections. (see ROD, pages 31 through 39, and page 45)

George Pavlou
Acting Director,
Emergency and Remedial Response Division
USEPA Region 2

9/30/08
Date

RECORD OF DECISION FACT SHEET
EPA REGION 2

Site

Site name: Computer Circuits Corp. Superfund Site

Site location: Hauppauge, Suffolk County, New York

Listed on the NPL: May 10, 1999

Record of Decision

Date signed: September 30, 2008

Selected remedy:

Soil: Residual contamination in two distinct areas will be treated using soil vapor extraction (SVE) systems.

Indoor Air: The SVE systems will remove contaminants from below the slab of the on-site building, thereby eliminating vapor intrusion into the indoor air of the building.

Groundwater: Through treatment of the source areas, continued migration of contaminants from soil to groundwater will be mitigated. Contaminant levels in groundwater are expected to continue to decrease.

Capital cost: $ 0

Operation and Maintenance and Monitoring costs: $ 28,860

Total Present-worth cost: $124,000

Lead: EPA

Primary Contact: Mark Dannenberg, Remedial Project Manager, (212) 637-4251

Secondary Contact: Angela Carpenter, Chief, Eastern New York Remediation Section, (212) 637-4263

Main PRP: 145 Marcus Blvd., Inc.

Waste

Waste type:	Volatile organics, including trichloroethylene.
Waste origin:	Wastewater discharged from the Computer Circuits Corp. facility containing solvents used in the computer circuit board manufacturing process.
Contaminated media:	Soil, groundwater, indoor air

RECORD OF DECISION

DECISION SUMMARY

Computer Circuits Corp. Superfund Site

Hauppauge, Suffolk County, New York

United States Environmental Protection Agency
Region 2
New York, New York

September 2008

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APPENDICES

SITE NAME, LOCATION, AND DESCRIPTION

The Computer Circuits Superfund Site (Site) is located within an industrial park in Hauppauge, New York (see Figure 1 in Appendix I). The Site includes a property that is approximately 2 acres in size, and a 21,600 square foot, one-story building. The Site is bordered by Marcus Boulevard to the west and other industrial and commercial properties to the north, south, and east. A residential area is located to the north of the Site with the nearest residence approximately one-half mile from the Site property.

Based on the 2000 Census, it is estimated that 5,769 people live within one mile of the Site. All residences in the vicinity of the Site use public water for the potable water supply.

The Site property is currently owned by 145 Marcus Blvd., Inc. The former owner, MCS Realty Company, owned the Site from 1969 to 1991 and leased the Site property to Computer Circuits Corporation (Computer Circuits) from 1969 to 1977. Computer Circuits operated a circuit board manufacturing facility at the Site and discharged industrial wastewaters into industrial cesspools on the Site property. Industrial cesspools were located on the south side of the building on the Site property and a single industrial cesspool located on the north side of that same building.

The topography of the Site is generally flat with a slight, downward slope to the west towards Marcus Boulevard. The Site is underlain by glacial deposits which consist of heterogeneous sand, gravel, and boulders with occasional silt and clay lenses. Glacial deposits are approximately 150 feet in thickness and are underlain by more than 1000 feet of Cretaceous coastal plain sediments.

Long Island is made up of a series of interconnected sand and gravel aquifers. All of Long Island's water supply comes from underground water held in the aquifers. Three major aquifers make up the Long Island aquifer system. In sequence from shallowest to deepest, the three major Long Island aquifers are the Upper Glacial, the Magothy, and the Lloyd aquifers. The saturated, highly permeable glacial sediments extend down through the underlying Magothy Formation. Depth to groundwater in the underlying Upper Glacial Aquifer is approximately 105 feet below the ground *surface at the Site. The Upper Glacial Aquifer has been* impacted by site-related contamination.

Groundwater flow in the area has a minor downward component, which transports groundwater from the glacial deposits to the Magothy formation. The Site also has a horizontal component for groundwater flow. As it is situated north of the regional groundwater divide, groundwater in the vicinity of the Site generally flows in an east-northeast direction toward the headwaters of the Nissequogue River.

There are no surface water bodies near the Site. Artificial recharge basins are located throughout the industrial park to accept storm water runoff from roadside catch basins. The water table surface does not intersect with the base of the recharge basins in this area.

SITE HISTORY AND ENFORCEMENT ACTIVITIES

The former Computer Circuits facility property was owned by MCS Realty from 1969 to 1991. Computer Circuits leased the entire property from MCS Realty from 1969 to 1977. In 1991, 145 Marcus Blvd, Inc. purchased the Site from MCS Realty. Since 1991, the Site property has been leased to various companies and is currently being leased by 145 Marcus Realty, LLC.

Computer Circuits was a manufacturer of printed circuit boards for both military and commercial applications. Waste liquids from the circuit board manufacturing process were discharged to five industrial leaching pools located beyond the southeast corner of the building located on the Site property. These waste liquids contained metals, acids, and solvents. Photographic chemicals and trichloroethylene (TCE), which were used in association with the dark room and silk screening room located in the northern part of the building, were discharged to a single industrial leaching pool adjacent to the north side of the building.

Between 1976 and 1977, the Suffolk County Department of Environmental Control (SCDEC) collected samples from the industrial pools and found that the discharge from the Computer Circuits facility was in violation of its State Pollutant Discharge Elimination System permit. In 1976, at

SCDEC's request, Computer Circuits hired a contractor who excavated and subsequently backfilled the five former industrial leaching pools located near the southeast corner of the building. Two new leaching pools were installed in the same general area in the latter half of 1976. The two new pools were used until Computer Circuits ceased its operations in 1977.

In 1977, SCDEC determined that the industrial cesspool located on the north side of the building was completely clogged. The discharge pipe to this industrial pool was capped in 1977, and the discharge ceased. In 1977, NYSDEC obtained an injunction against Computer Circuits and all Site operations ceased. Computer Circuits Corporation subsequently vacated the premises.

NYSDEC placed the Site on the New York Registry of Inactive Hazardous Waste Disposal Sites in December 1986, under a Class 2 classification, meaning that the Site posed a significant threat to the public health or the environment and that action will be required.

In 1989, soil and groundwater were investigated at the Site pursuant to an Order on Consent between the NYSDEC and the property owner. After the transfer of the property, additional groundwater monitoring was performed by a consultant to 145 Marcus Blvd, Inc. in February 1991 and February 1994. In 1995, five additional soil borings were drilled (one at the main sanitary cesspool west of the building, one at the industrial leaching pool located on the north side of the building, and three in the vicinity of the industrial pools off the southeast corner of the building) and soil samples were collected. Volatile organic compounds (VOCs) were not detected in the soil samples above NYSDEC guidance values. However, metals including lead, silver, copper, nickel, and zinc were detected in the soil samples above NYSDEC guidance values.

Another round of groundwater sampling was performed in 1995 from the three existing groundwater monitoring wells located along the property boundary, one on the southwest corner of the property, one near the northeast corner, and one north of the building. The data collected from this round of groundwater sampling indicated that certain VOCs (including TCE, 1,2-dichloroethene, 1,1,1-trichlorethane, and tetrachloroethene) were present above NYSDEC standards and Maximum Contaminant Levels (MCLs) established by the Safe Drinking Water Act.

In 1996, 145 Marcus Blvd, Inc. had an additional three groundwater monitoring wells installed at the Site, one adjacent to the southwest corner of the building (to supplement the three that were already there), one adjacent to the southeast corner of the building, and one along the southern edge of the Site property (see Appendix I, Figure 3). Groundwater samples were subsequently collected from the new monitoring wells as well as two of the three original monitoring wells; the data collected indicated the presence of one or more of the same VOCs (e.g., TCE, 1,2-dichloroethene, 1,1,1-trichlorethane, and tetrachloroethene) above NYSDEC standards and MCLs in each of these wells.

On May 10, 1999, EPA placed the Site on CERCLA's National Priorities List (NPL) of sites. EPA took over as the lead regulatory agency overseeing the implementation of a Remedial Investigation (RI) and Feasibility Study (FS). On September 29, 2000, Respondent voluntarily entered into an administrative order on consent to conduct an RI/FS to determine the nature and extent of contamination.

On January 3, 2003, 145 Marcus Boulevard, Inc. submitted a draft RI Report for the Site. During the RI, samples were collected from several media including surface and subsurface soils, groundwater, and air. The RI identified the presence of elevated levels of several contaminants in the soil. In addition, air samples collected from the indoor air of the building at the Site identified the presence of volatile organic compounds, including TCE. TCE was identified at levels of concern in indoor air, in soils just beneath the slab of the northern portion of the on-Site building, and in soils within the leaching pool adjacent to the north side of the building.

On September 28, 2004, the Regional Administrator signed an Administrative Order on Consent that provides for the performance of a removal action by 145 Marcus Blvd. Inc. The Order calls for the construction and operation of both a soil vapor extraction (SVE) system and a sub-slab depressurization system at the Site. Under the 2004 Removal Order, operation and maintenance (O&M) of the SVE system and sub-slab depressurization system is to continue until six months after the later of the following: (1)

concentrations of TCE in indoor air do not exceed 0.36 ug/m3 or, if approved by EPA, a different Site-specific indoor air background level for TCE; and (2) concentrations of TCE in representative soil-gas samples at the intake of the SVE and the sub-slab depressurization systems do not exceed 36 ug/m3 and 3.6 ug/m3, respectively. These levels were risk-based goals expected to be consistent with any ultimate remedial action selected for the Site.

COMMUNITY PARTICIPATION

A Proposed Plan (which proposes a remedy for the Site) and supporting documentation for the Site were made available to the public on August 8, 2008 at the EPA Region 2 Administrative Record File Room in New York, New York, and at the Smithtown Public Library in Smithtown, New York. EPA published a public notice in *Newsday* on August 8, 2008, which identified the 30-day duration of the public comment period, the date of a scheduled public meeting, and the availability of the Proposed Plan and the Administrative Record. This notice was sent to all addresses on the mailing list of parties which had indicated an interest in the Site.

On August 19, 2008, EPA held a public meeting at the Smithtown Public Library, at 1 North Country Road in Smithtown, New York. The purpose of the meeting was to inform interested citizens and local officials about the Superfund process, to discuss the Proposed Plan and the preferred remedy for the Site, to receive comments on the Proposed Plan and the preferred remedy, and to respond to questions from area residents and other interested parties.

The public comment period which began August 8, 2008 ended on September 6, 2008. EPA has compiled all comments and questions it received throughout the 30-day public comment period, including written comments and comments and questions raised at the August 19, 2008 public meeting, into a Responsiveness Summary. EPA's responses to those comments and questions are included as part of this Record of Decision in the Responsiveness Summary (Appendix V).

SCOPE AND ROLE OF RESPONSE ACTION

This Record of Decision addresses the remediation of the contaminated soil and indoor air at the Site. The entire Site is addressed as one operable unit and this is intended to be the sole and final remedy for this Site. The site-specific media impacted at the Site are soils (in the former industrial cesspool areas), groundwater, and indoor air in the on-Site building. The two main objectives for response action at this Site are to remediate contaminated soil and to mitigate vapor intrusion into the building on the Site property.

Although the contaminant levels in the soil do not exceed soil cleanup standards, the source areas continue to act as a source of groundwater and indoor air contamination which are at unacceptable levels. Contaminant levels in indoor air are at levels that present a risk to workers. The objectives are to ensure that soil concentrations are reduced such that vapors in the building are reduced to acceptable levels.

SITE CHARACTERISTICS

This section of the ROD provides an overview of the Site's geology and hydrogeology, the sampling strategy used at the Site, the conceptual Site model, and the nature and extent of contamination at the Site. Further detailed information about the Site's characteristics can be found in the RI Report.

Overview of the Site

The Town of Hauppauge is situated in central Suffolk County. It is estimated that 5,769 people live within one mile of the former facility. All residences in the vicinity of the former facility use public water for the potable water supply. The latitude of the Town of Hauppauge is 40.485N and the longitude is 73.144W.

The Site is in a commercial and industrial area. The Site property consists primarily of a paved parking lot and a building (which is approximately 22,000 square feet in size). The Site is bordered on the west by Marcus

Boulevard and on the north, south and east by other commercial properties.

The area where the Site is located is zoned for commercial and industrial use. The nearest residences to the Site are located approximately one-half mile to the north of the Site property.

Geology/Hydrogeology

The hydrology and hydrogeology of the area of the Site is clearly understood. Studies of Long Island hydrology and geology in the vicinity of the Site indicate that the uppermost Pleistocene deposits are generally composed of highly permeable glacial sands and gravel. Water penetrates these sandy deposits which store large quantities of water called the Upper Glacial aquifer. Three major aquifers make up the Long Island aquifer system. From shallowest to deepest, the three major Long Island aquifers are the Upper Glacial, the Magothy, and the Lloyd aquifers. Precipitation and surface water that recharge within the Upper Glacial zone have the potential to replenish the deep Magothy and Lloyd aquifer systems lying below the Upper Glacial aquifer. This groundwater system is the primary source of drinking water for all of Suffolk County, and, as such, has been designated a sole source aquifer.

Ecology

The Site includes a large one-story building (approximately 22,000 square feet). Asphalt driveways and parking areas are present to the north, south, and east of the building. The paved areas and building occupy over 50 percent of the total area of the property. The remainder of the property consists of an area of landscaped plants and mowed grass (75 feet X 240 feet) in the front of the building (on the west side of the property along Marcus Avenue), and an unpaved and unvegetated area along the eastern property edge (180 feet X 150 feet). A thin, wooded strip (10 to 15 feet wide) runs along the eastern property line at the rear of this vacant area. Future land use of this area is likely to remain under commercial/industrial use for the foreseeable future.

Trees, shrubs, and groundcover present at the Site are either the result of landscaping or second stage fallow growth. Suitable wildlife habitat is absent from the area encompassing the Site. During the site reconnaissance, no insects, birds, or mammals were observed.

There are no freshwater bodies existing either on the Site or within the general vicinity of the Site. The site reconnaissance also revealed that there were no surface water pathways associated with the Site (other than the storm drain located in front of the property on Marcus Blvd that empties into a recharge basin approximately one mile north of the Site). Furthermore, there are no sensitive environmental areas located on or near the Site.

Cultural Resources

A Cultural Resources Survey was performed for the Site and indicated that there were neither any significant National Register of Historic Places, or National Register of Historic Places-eligible properties, nor any likely prehistoric resources within the project boundaries. As such, the regulatory requirements relating to the identification and protection of historic properties/places have been addressed, and no additional archaeological investigations are considered necessary at the Site.

Nature and Extent of Contamination

Activities performed as part of the RI included: geophysical studies, on-Site soil borings, soil sampling, monitoring well drilling and installation, groundwater sampling, soil-gas sampling, and indoor air monitoring. These activities were primarily performed by 145 Marcus Blvd, Inc., the potentially responsible party (PRP) at the Site, pursuant to an administrative order on consent signed by 145 Marcus Blvd, Inc. and EPA on September 29, 2000, with EPA and NYSDEC oversight; some additional activities (including indoor air and sub-slab soil gas monitoring) were performed by the EPA. Site-related contamination was found in soil, soil-gas, indoor air, and groundwater. The results of the RI are summarized below.

Soil: The first phase of the field work portion of the RI was conducted by PW Grosser Consulting, as a consultant to

145 Marcus Blvd, Inc., from December 17, 2001 to July 24, 2002. The soil sampling activities were primarily focused in the areas where contaminant sources existed, namely, the industrial cesspools used for wastewater from operations at the Computer Circuits facility. Cesspools were located beyond the southeastern corner of the building and another cesspool was located on the north side of the building. These areas were identified as contributing to contamination in the underlying aquifer. The primary contaminants identified during soil sampling activities include: 1,1-dichloroethene; 1,1,1-trichloroethane; 1,2-dichloroethane; acetone; chloromethane; methylene chloride; TCE; tetrachloroethene (PCE), and vinyl chloride.

During the soil sampling phase of the RI, 48 shallow and 4 deep soil borings were advanced at the Site. Analyses of samples were conducted for inorganic (e.g., metals) and organic contaminants. Compounds detected above preliminary screening values (namely, the EPA Region 9 Preliminary Remediation Goals) were considered contaminants of potential concern (COPCs) for the Site. The following compounds were selected as COPCs for subsurface soils: TCE, benzo(a)pyrene, and nickel. In addition, since the NYSDEC Recommended Soil Cleanup Objectives (RSCO) for copper, silver, and zinc were exceeded, these metals were also retained as COPCs.

Results from the shallow borings revealed concentrations of TCE above screening values in the vicinity of the industrial leaching pool on the north side of the building, and beneath the concrete slab floor in the former silk screening room. TCE was detected in six shallow borings in excess of the EPA soil screening value of 60 micrograms per kilogram (µg/kg). The highest reported VOC concentration (namely, for TCE) in a shallow soil boring was 12,000µg/kg, which was found in the top 2 feet below the concrete slab in the northern portion of the building. The NYSDEC Unrestricted Use RSCO value for TCE is 470µg/kg. One of the four deep soil borings revealed TCE at a concentration of 55,000µg/kg (an exceedence of the NYSDEC RSCO value for TCE) 22 feet below ground surface (bgs) at the base of the former industrial leaching pool on the north side of the building. The EPA soil screening value for TCE (60µg/kg) was also exceeded in one deep soil boring in the vicinity of the former leaching pools off of the southeast corner of the building on the Site property. TCE was the only compound detected in excess of its NYSDEC RSCO value or the EPA soil screening level from the deep soil borings.

Soil sampling data collected from shallow borings reflected that the NYSDEC RSCO was exceeded for metals, predominantly copper and nickel, in the area of the former industrial pools near the southeast side of the building. The NYSDEC RSCO was also exceeded for silver and zinc in the industrial pool on the north side of the building. The maximum level of copper detected was 12,300mg/kg in the area of the former industrial pools near the southeast corner of the building at a depth of 15 feet bgs. The next highest value of copper detected was 312mg/kg. The NYSDEC Unrestricted Use RSCO for copper is 50mg/kg; EPA does not have a soil screening level for copper.

Only one subsurface soil sample of nickel was detected above the preliminary screening value, and this sample was co-located with the maximum detected level of copper (in the area of the former industrial pools near the southeast corner of the building at a depth of 15 feet bgs). Silver was detected (at a level of 168mg/kg) above the preliminary screening value from only one subsurface soil sample, at a depth of 20 feet bgs near the former industrial leaching pool on the north side of the building on the Site property. The NYSDEC Unrestricted Use RSCO for silver is 2mg/kg.

EPA does not have a preliminary screening value for zinc. However, the NYSDEC Unrestricted Use RSCO for zinc (which is 109mg/kg) was exceeded in one sample collected at a depth of 20 feet bgs, (again from the former industrial leaching pool on the north side of the building on the Site property), at a concentration of 90.9mg/kg.

As the industrial cesspool on the north side of the building was a known source of contamination, on January 23, 2002, sediments within the industrial cesspool were removed prior to advancing a deep soil boring. This was performed to prevent introducing contaminated materials to the underlying aquifer. These sediments were removed by a "Guzzler" vacuum truck, which utilizes a strong vacuum to extract the sediments and water through a 5 inch hose, and they were placed in a container for disposal.

Groundwater: The groundwater monitoring program included sampling of groundwater from Site-related monitoring wells and analysis of these samples for organic and inorganic compounds. Groundwater monitoring was performed in several separate field mobilizations conducted between 2001 and 2008. The investigations included:

- Installing additional permanent groundwater monitoring wells to act as fixed monitoring and/or compliance points within the aquifer. A total of 18 groundwater monitoring wells currently exist in the study area (See Figure 2);

- Collecting a series of groundwater samples from the assembled monitoring well network;

- Identifying the COPCs in groundwater; and

- Characterizing the nature and extent of the groundwater contamination.

Evaluation of the data demonstrates that the groundwater at the Site generally flows in an east-northeast direction.

The following compounds were initially identified as COPCs for groundwater: PCE, TCE, chromium VI, manganese, iron, and nickel. Chromium VI was not detected in groundwater monitoring wells on Site property, but it was detected at one monitoring well located upgradient of the Site property and one monitoring well located downgradient of the Site property. Furthermore, the RI Report documents that Computer Circuits did not use chromium in any of its operations. Manganese and iron are frequently found at elevated levels in groundwater on Long Island and are not considered Site-related. Nickel was not detected above NYSDEC groundwater standards, and there is no federal standard for nickel. For these reasons, chromium VI, manganese, iron, and nickel were eliminated as COPCs at the Site, leaving only PCE and TCE.

The primary contaminants identified in groundwater were TCE and PCE, both of which were detected at concentrations above both MCLs, and New York State Groundwater Standards in wells located within the property boundary and in wells located upgradient and downgradient of the property boundary. Sampling data collected during the RI in 2002 revealed elevated concentrations of TCE and PCE of 280 parts per billion (ppb) and 370 ppb, respectively. Earlier groundwater data, collected prior to the Site being listed on the NPL, reflected even higher concentrations of TCE and PCE.

More recent groundwater sampling data indicate that the concentrations in the on-Site monitoring wells and downgradient of the Site have continued to decrease significantly. Groundwater data collected between December 2006 and April 2007 indicate that the highest concentrations of TCE and PCE were 28 ppb and 36 ppb, respectively. Also, EPA had an additional six monitoring wells installed in the Site area in 2008, two of which were upgradient of the property boundary and four of which were downgradient from the property boundary. These new wells, along with the previously existing wells associated with the Site, were sampled between May 27, 2008 and June 4, 2008. This latest round of groundwater monitoring indicates that the highest concentrations of TCE and PCE are 24 ppb and 31 ppb, respectively. Significantly, the well that yielded the 24 ppb of TCE was non-detect in the previous sampling event (June 2007). Similarly, the well that yielded the 31 ppb of PCE was also non-detect for PCE in the previous sampling event. This disparity between the 2007 and 2008 groundwater data supports the conclusion that there are no continuous sources of contamination overlying these monitoring wells and no discernable plume associated with the Site. Historical groundwater monitoring data is presented in Appendix II, Tables 8, 9, and 10.

In general, the 2008 groundwater monitoring data shows that in the instances where TCE or PCE exceeded MCLs, the concentrations were approaching the MCL value. The wells located within the property boundary and the wells downgradient of the property boundary now have concentrations that are very similar to the low concentration levels found in upgradient wells.

MCLs and New York State Groundwater Standards are primary standards to protect public health by limiting the levels of contaminants in drinking water. As these standards were exceeded, TCE and PCE are retained as COPCs. However, PCE was reportedly never used at the Site, and only trace amounts of PCE were found in Site soils. As such, the PCE in the groundwater is believed to come predominantly from a source (or sources) upgradient to the Site.

All residences in the vicinity of the Site rely on public water for their potable water supply. Two public water supply wells are located approximately three-quarters of a mile to the north of the Site. One of these public water supply wells has been impacted by VOCs from a source other than the Site. As the direction of groundwater flow under the Site is generally in an east-northeasterly direction, these public water supply wells are neither directly downgradient of the Site nor within the zone of influence. Nonetheless, these public water supply wells are equipped with well-head treatment that removes VOCs (including TCE and PCE) from the water prior to distribution to the public. The public water supply is routinely monitored to ensure compliance with federal and state standards for drinking water.

Indoor Air: Air samples were collected on July 24, 2002 from four locations (3 inside the building and one outside and adjacent to the building). Results were compared to the EPA Region 9 preliminary screening values (EPA Region 9 Preliminary Remediation Goals) and New York State Department of Health (NYSDOH) Soil Vapor Intrusion Guidance to assess the ambient indoor air quality. The VOCs detected above the screening values are: 1,1-dichloroethene; 1,1,1-trichloroethane; 1,2-dichloroethane; acetone; chloromethane; methylene chloride; TCE; and vinyl chloride. Based on these findings, it was determined that a corrective measure was necessary. EPA and 145 Marcus Blvd., Inc. signed an Administrative Order on Consent on September 28, 2004 requiring that work be performed to remove VOC contamination from the soil and mitigate vapor intrusion into the building. This work involves the operation of a SVE system which remediates contaminated soils in a contaminant-source area on the north side of the building and mitigates vapor intrusion into the building.

Additional air monitoring activities were conducted by EPA in May, 2008. Several summa canisters were placed in various locations within the building to determine levels of VOCs in the indoor air. Only two VOCs were detected during these activities, namely, TCE and trans-1,2-dichloroethene. The highest concentrations of TCE and trans-1,2-dichloroethene were 6.07 $\mu g/m^3$ and 0.381 $\mu g/m^3$, respectively. As part of the Site monitoring activities, EPA also collected soil-gas samples from around the perimeter of the building and beneath the foundational slab. These samples were analyzed for certain VOCs including TCE and PCE. The soil-gas samples reflected maximum TCE and PCE levels of 80,613μg/m^3 and 8815μg/m^3, respectively. These activities also reflected the need to perform additional corrective actions in the vicinity of the former industrial cesspools located near the southeast corner of the building.

CONTAMINANT FATE AND TRANSPORT

Migration of contaminants at the Site occurs from contaminated soils to the groundwater and from contaminated soils to the indoor air of the building on the Site property. Migration of dissolved contaminants also occurs within the groundwater aquifers. The Site-related VOCs emanate from the former industrial cesspools (located on both the north side and the south side of the building) which still acts as an ongoing source of groundwater and indoor air contamination. Recent groundwater data supports the conclusion that contaminant levels are approaching MCLs and there is currently no groundwater contaminant plume associated with the Site. Groundwater data does reflect the presence of VOCs; however, contaminant levels in groundwater are currently analogous to contamination upgradient and downgradient of the Site (see Appendix II, Tables 8, 9, and 10).

CURRENT AND POTENTIAL FUTURE SITE AND RESOURCE USES

The Site is in an area used for commercial and industrial purposes. The zoning of the Site (commercial/industrial) is not expected to change in the near future. The groundwater at the Site is classified by NYSDEC as "GA", which is defined as groundwater suitable as a source of drinking water. All residences in the vicinity of the Site rely on public water for their potable water supply. Two public water supply wells are located approximately three-quarters of a mile to the north of the Site. One of the public water supply wells has been impacted by VOCs from a source other than from the Site. As the direction of groundwater flow under the Site is generally in an east-northeasterly direction, these public water supply wells are not directly downgradient of the Site, nor within the zone of influence. Nonetheless, these public water supply wells are already equipped with well-head treatment that removes VOCs (including TCE and PCE) from the water prior to distribution to the public. Furthermore, the public water supply is routinely monitored to ensure compliance with federal and state standards for drinking water.

SUMMARY OF SITE RISKS

As part of the RI/FS, EPA conducted a baseline risk assessment to estimate the current and future effects of contaminants on human health and the environment. A baseline risk assessment is an analysis of the potential adverse human health and ecological effects of releases of hazardous substances from a site in the absence of any actions or controls to mitigate such releases, under current and future land uses. The baseline risk assessment includes a human health risk assessment and an ecological risk assessment. It provides the basis for taking action and identifies the contaminants and exposure pathways that need to be addressed by a remedial action. This section of the ROD summarizes the results of the baseline risk assessment for the Site.

Human Health Risk Assessment

A four-step process is utilized for assessing site-related human health risks for a reasonable maximum exposure scenario: *Hazard Identification* - uses the analytical data collected to identify the COPCs at the Site for each medium, with consideration of a number of factors explained below; *Exposure Assessment* - estimates the magnitude of actual and/or potential human exposures, the frequency and duration of these exposures, and the pathways (e.g., ingesting contaminated well-water) by which humans are potentially exposed; *Toxicity Assessment* - determines the types of adverse health effects associated with chemical exposures, and the relationship between magnitude of exposure (dose) and severity of adverse effects (response); and *Risk Characterization* - summarizes and combines outputs of the exposure and toxicity assessments to provide a quantitative assessment of site-related risks. The risk characterization also identifies contamination with concentrations which exceed acceptable levels, defined by the NCP as an excess lifetime cancer risk greater than 1 x 10^{-6} - 1 x 10^{-4} or a Hazard Index greater than 1.0; contaminants at these concentrations are considered COCs and are typically those that will require remediation at the Site. Also included in this section is a discussion of the uncertainties associated with these risks.

Hazard Identification

In this step, the COPCs in each medium were identified based on such factors as toxicity, frequency of occurrence, fate and transport of the contaminants in the environment, concentrations, mobility, persistence, and bioaccumulation. Analytical information that was collected to determine the nature and extent of contamination revealed the presence of PCE, TCE, and methylene chloride at the Site at concentrations of potential concern. Based on this information, the risk assessment focused on groundwater and indoor air contaminants which may pose significant risk to human health.

A comprehensive list of all COPCs can be found in the "Former Computer Circuits Site - Human Health Risk Assessment (2006)" (BHHRA). This document is available in the Administrative Record file. Only the COCs, or these chemicals requiring remediation at the Site, are listed in Table 1.

Exposure Assessment

Consistent with Superfund policy and guidance, the BHHRA is a baseline human health risk assessment and therefore assumes no remediation or institutional controls to mitigate or remove hazardous substance releases. Cancer risks and noncancer hazard indices were calculated based on an estimate of the reasonable maximum exposure (RME) expected to occur under current and future conditions at the Site. The RME is defined as the highest exposure that is reasonably expected to occur at a site. For those contaminants for which the risk or hazard exceeded the acceptable levels, the central tendency estimate, or the average exposure, was also evaluated.

The Site is currently zoned for commercial use, although there are residential properties in the vicinity of the Site. It is anticipated that the future land use for this area will remain consistent with its current use. The BHHRA evaluated potential risks to populations associated with both current and potential future land uses.

Exposure pathways were identified for each potentially exposed population and each potential exposure scenario for the groundwater and indoor air. Exposure pathways assessed in the BHHRA for the groundwater include ingestion of tap water, dermal contact with tap water, and inhalation in the shower by adult and child residents. In addition, ingestion of tap water and inhalation of indoor air were assessed for on-Site workers. A summary of the exposure pathways that were associated with elevated risks or hazards can be found in Table 2. Typically, exposures are evaluated using a statistical estimate of the exposure point concentration, which is usually an upper-bound estimate of the average concentration for each contaminant, but in some cases it may be the maximum detected concentration. A summary of the exposure point concentrations for the COCs in each medium can be found in Table 1, while a comprehensive list of the exposure point concentrations for all COPCs can be found in the BHHRA.

Toxicity Assessment

Under current EPA guidelines, the likelihood of carcinogenic risks and noncancer hazards because of exposure to site chemicals are considered separately. Consistent with current EPA policy, it was assumed that the toxic effects of the Site-related chemicals would be additive. Thus, cancer and noncancer risks associated with exposures to individual COPCs were summed to indicate the potential risks and hazards associated with mixtures of potential carcinogens and noncarcinogens, respectively.

Toxicity data for the human health risk assessment were provided by the Integrated Risk Information System database, the Provisional Peer Reviewed Toxicity Database , or another source that is identified as an appropriate reference for toxicity values consistent with EPA's directive on toxicity values. This information is presented in Table 3 (noncancer toxicity data summary) and Table 4 (cancer toxicity data summary). Additional toxicity information for all COPCs is presented in the BHHRA.

Risk Characterization

Noncarcinogenic risks were assessed using a hazard index (HI) approach, based on a comparison of expected contaminant intakes and benchmark comparison levels of intake (reference doses, reference concentrations). Reference doses (RfDs) and reference concentrations (RfCs) are estimates of daily exposure levels for humans (including sensitive individuals) which are thought to be safe over a lifetime of exposure. The estimated intake of chemicals identified in environmental media (*e.g.*, the amount of a chemical ingested from contaminated drinking water) is compared to the RfD or the RfC to derive the hazard quotient (HQ) for the contaminant in the particular medium. The HI is obtained by adding the HQs for all compounds within a particular medium that impacts a particular receptor population.

The HQ for oral and dermal exposures is calculated as below. The HQ for inhalation exposures is calculated using a similar model that incorporates the RfC, rather than the RfD.

HQ = Intake/RfD

Where: HQ = hazard quotient
Intake = estimated intake for a chemical (mg/kg-day)
RfD = reference dose (mg/kg-day)

The intake and the RfD will represent the same exposure period (i.e., chronic, subchronic, or acute).

As previously stated, the HI is calculated by summing the HQs for all chemicals for likely exposure scenarios for a specific population. An HI greater than 1.0 indicates that the potential exists for noncarcinogenic health effects to occur as a result of Site-related exposures, with the potential for health effects increasing as the HI increases. When the HI, which is calculated for all chemicals for a specific population, exceeds 1.0, separate HI values are then calculated for those chemicals which are known to act on the same target organ. These discrete HI values are then compared to the acceptable limit of 1.0 to evaluate the potential for noncancer health effects on a specific target organ. The HI provides a useful reference point for gauging the potential significance of multiple contaminant exposures within a single medium or across media. A summary of the noncarcinogenic risks associated with these chemicals for each exposure pathway is contained in Table 5.

It can be seen in Table 5 that the HI for noncancer effects as a result of potential exposure to tetrachloroethene and trichloroethene in tap water is 12 for the child resident. The noncancer HI was below one for the adult resident and on-Site workers.

For carcinogens, risks are generally expressed as the incremental probability of an individual developing cancer over a lifetime as a result of exposure to a carcinogen, using the cancer slope factor (SF) for oral and dermal exposures and the inhalation unit risk (IUR) for inhalation exposures. Excess lifetime cancer risk for oral and dermal exposures is calculated from the following equation, while the equation for inhalation exposures uses the IUR, rather than the SF:

Risk = LADD x SF

Where: Risk = a unitless probability (1×10^{-6}) of an individual developing cancer
LADD = lifetime average daily dose averaged over 70 years (mg/kg-day)
SF = cancer slope factor, expressed as [1/mg/kg-day)]

These risks are probabilities that are usually expressed in scientific notation (such as 1×10^{-4}). An excess lifetime cancer risk of 1×10^{-4} indicates that one additional incidence of cancer may occur in a population of 10,000 people who are exposed under the conditions identified in the assessment. Again, as stated in the NCP, the acceptable risk range for site-related exposure is 10^{-6} to 10^{-4}.

Results of the BHHRA presented in Table 6 indicate that the adult resident (2.1×10^{-3}) and child resident (4.6×10^{-3}) exceed the acceptable EPA risk range as a result of exposure to PCE and TCE in tap water. In addition, the on-Site worker had elevated risks from exposure to PCE and TCE in tap water (2.5×10^{-4}) and from exposure to TCE and methylene chloride (5.5×10^{-3}) in indoor air.

In summary, PCE and TCE in groundwater, as well as TCE and methylene chloride through vapor intrusion contribute to unacceptable risks and hazards to receptor populations that may use the Site or lie over contaminated groundwater. The non-cancer hazards and cancer risks from all COPCs can be found in the BHHRA.

The response action selected in this Record of Decision is necessary to protect the public health or welfare of the environment from actual or threatened releases of contaminants into the environment.

Ecological Risk Assessment

A screening-level ecological risk assessment (SLERA) was prepared to identify the potential environmental risks associated with groundwater and soil. The results of the SLERA suggested that there are contaminants in groundwater and soils, but they are not present at levels posing significant risks to ecological receptors. Furthermore, based on the industrial nature of the former facility and surrounding properties and the minimal natural vegetation at the Site, it was determined that the Site does not have any valuable ecological resources. In addition, two other physical factors also support the finding that there are no significant risks to ecological receptors, namely, that the depth to groundwater is approximately 105 feet, and that groundwater to surface water pathways are not present. As there are no complete exposure pathways based on an absence of a suitable habitat to support ecological receptors, it was determined that the Site does not pose a potential for adverse ecological effects.

Uncertainties

The procedures and inputs used to assess risks in this evaluation, as in all such assessments, are subject to a wide variety of uncertainties. In general, the main sources of uncertainty include:

- environmental chemistry sampling and analysis;
- environmental parameter measurement;
- fate and transport modeling;
- exposure parameter estimation; and
- toxicological data.

Uncertainty in environmental sampling arises in part from the potentially uneven distribution of chemicals in the media sampled. Consequently, there is significant uncertainty as to the actual levels present. Environmental chemistry-analysis error can stem from several sources including the errors inherent in the analytical methods and characteristics of the matrix being sampled.

Uncertainties in the exposure assessment are related to estimates of how often an individual would actually come in contact with the chemicals of concern, the period of time over which such exposure would occur, and in the models used to estimate the concentrations of the chemicals of concern at the point of exposure.

Uncertainties in toxicological data occur in extrapolating both from animals to humans and from high to low doses of exposure, as well as from the difficulties in assessing the toxicity of a mixture of chemicals. These uncertainties are addressed by making conservative assumptions concerning risk and exposure parameters throughout the assessment. As a result, the risk assessment provides upper-bound estimates of the risks to populations near the Site, and it is highly unlikely to underestimate actual risks related to the Site.

More specific information concerning public health risks, including a quantitative evaluation of the degree of risk associated with various exposure pathways, is presented in the risk assessment report.

Basis for Remedial Action

A response action is necessary to protect the public health or welfare or the environment from actual releases of hazardous substances in to the environment. A response action is warranted because of the following:

The contaminated soil continues to be a source of groundwater and indoor air contamination. As such, a remedial action is warranted to reduce or eliminate contamination in the soil, in particular, the two existing source areas.

Recent groundwater data (e.g., from 2006, 2007, and 2008) supports the conclusion that there is currently no groundwater contaminant plume associated with the Site. Groundwater data does reflect the presence of VOCs, both upgradient and downgradient of the Site. The long-term groundwater monitoring will be used to monitor background groundwater contaminant levels and to ensure that residual soil contamination at the Site is not contaminating the groundwater.

Indoor air COCs are present in concentrations both above New York State guidelines and that pose a potential risk from direct exposure to potentially exposed populations. As such, a remedial action is warranted to remove contamination from below the slab of the building and eliminate the source of indoor air contamination.

REMEDIAL ACTION OBJECTIVES

Remedial action objectives (RAOs) describe what the Site Remedy is designed to accomplish. The RAOs are based on the nature and extent of the contamination, the resources that are currently and potentially threatened, and the potential for human and environmental exposure. Remedial action goals are media-specific goals to protect human health and the environment and utilize available information and standards such as applicable or relevant and appropriate requirements (ARARs), to-be-considered (TBC) guidance, and risk-based levels established in the risk assessment. Section 121(d) of CERCLA requires that, at a minimum, any remedial action implemented at a site achieve overall protection of human health and the environment and comply with all ARARs. ARARs at a site may include other federal and state environmental statutes and regulations.

The general RAOs identified for the Site are:

- to prevent exposure of human receptors to contaminated groundwater;
- to minimize migration of contaminants from soils to groundwater;
- to ensure that hazardous constituents within the soil meet acceptable levels consistent with reasonably anticipated future use;
- to prevent exposure of human receptors to contaminated indoor air; and
- to minimize migration of contaminants from soils to indoor air.

Implementing active remedies in the source area and below the slab of the building on the Site property will address the risks associated with the Site-related contaminants. Specifically, implementation of the Site remedy is expected to reduce the concentration of contaminants in soils below soil cleanup objectives and, thereby, mitigate these areas as sources of indoor air contamination. Table A below lists the cleanup levels for the Site contaminants in groundwater, soil, and indoor air based on federal and state promulgated ARARs, risk-based levels, background concentrations, and guidance values.

Table A: Cleanup Objectives

Contaminant	Groundwater (ug/L) *	Soils (ug/kg)	Indoor Air (µg/m³)
Trichloroethylene	5	470 **	0.36***
Tetrachloroethylene	5	1,300 **	
cis-1,2-dichloroethylene	5	250 **	
Trans-1,2-dichloroethylene	5	190 **	
1,1,1-trichloroethane	5	680 **	

* Groundwater cleanup levels for organic COCs are based on the more conservative of the Federal Maximum Contaminant Levels (MCLs) and the New York Ambient Groundwater Standards and Guidance Values (NYSDEC TOGs 1.1.1, June 1998).
** The values shown are from *NYSDEC Subpart 375: Remedial Program Soil Cleanup Objectives*.
*** Indoor Air cleanup levels are based on levels agreed to in an Administrative Order on Consent for Removal Action signed by EPA and 145 Marcus Blvd, Inc.

DESCRIPTION OF ALTERNATIVES

CERCLA § 121(b)(1), 42 U.S.C. § 9621(b)(1), requires that any selected remedy be protective of human health and the environment, be cost-effective, comply with other statutory laws, and utilize permanent solutions and alternative treatment technologies and resource recovery alternatives to the maximum extent practicable. In addition, the statute includes a preference for the use of treatment as a principal element for the reduction of toxicity, mobility, or volume of the hazardous substances.

A number of alternatives for the Site were evaluated in light of the RAOs. Three alternatives were selected for final evaluation. These alternatives are described below.

Remedial Alternatives:

The following three alternatives were evaluated for the remediation of contamination:

Alternative 1: No Further Action

The "No Action" alternative is considered in accordance with NCP requirements and provides a baseline for comparison with other alternatives. If this alternative were implemented, the current status of the Site would remain unchanged. Institutional controls would not be implemented to restrict future Site development or use. Engineering controls would not be implemented to prevent Site access or exposure to Site contaminants. Although existing fencing at the Site would remain, it would not be monitored or maintained under this alternative. Operation of the SVE system on the north side of the building would be discontinued.

Table 2: Cost Data for Alternative 1

Capital Cost	$ 0
O & M Cost	$ 0
Present Worth Cost	$ 0
Construction Time	N/A

Alternative 2: Continued Operation of two Soil Vapor Extraction Systems

This alternative involves the continued operation of two SVE systems (one on the north side of the building and one on the south side of the building). SVE is a remedial technology that reduces concentrations of volatile organics adsorbed to soils in the unsaturated (vadose) zone. Volatile constituents of the contaminant mass "evaporate" and the vapors are drawn towards the extraction wells by the vacuum. The vapors are extracted (removed) from the ground by applying a vacuum to pull the vapors out. The SVE system currently operating on the north side of the building would be optimized to extract greater quantities of VOCs and, thereby, reduce the amount of time needed to achieve cleanup goals and the time needed to operate the system. Another SVE system on the south side of the building has been installed by EPA. Operation of the two SVE systems will mitigate vapor intrusion into the building on the Site property, and thereby reduce the elevated levels of TCE in the building's indoor air.

In addition, a groundwater monitoring program would be performed to collect information to confirm the declining trend in COPC concentrations at and downgradient of the Site, and to measure the effectiveness of the source control measures discussed above.

The groundwater monitoring program would involve collecting samples from groundwater monitoring wells associated with the Site. Initially, sampling of groundwater monitoring wells would be performed on a periodic (e.g., quarterly) basis. The frequency of groundwater monitoring would be assessed on an annual basis and may be adjusted based on that assessment. Furthermore, this assessment would consider whether certain monitoring wells may be omitted from this. In addition, monitoring of indoor air would be conducted periodically until cleanup objectives are met. Furthermore, the SVE systems will be tested to ensure that their radius of influence sufficiently covers the building on the Site property.

As it may take longer than five years to achieve cleanup levels, a review of Site conditions will be conducted no less often than once every five years, consistent with the requirement in Section 121(c) of CERCLA.

A Site Management Plan (SMP) would be developed to provide for the proper management of all Site remedy components post-construction, including: (a) monitoring of Site groundwater to ensure that, following remedy implementation, the groundwater quality improves; (b) monitoring of indoor air in the on-Site building and soil gas below the slab of the building to ensure that indoor air is safe for occupants/tenants and that vapor intrusion is under control; (c) provision for any operation and maintenance required of the components of the remedy; and (d) periodic certifications by the owner/operator or other person implementing the remedy that any institutional and engineering controls are in place.

Additional institutional controls would be required as appropriate and may include an environmental easement and/or restrictive covenant filed in the property records of Suffolk County that would: (a) limit the use of the active industrial area to commercial and/or industrial uses only; (b) require that any new or renovated building or structure at the Site that will be occupied in the future be evaluated for soil vapor intrusion; and (c) restrict the use of groundwater at the Site as a source of potable or process water unless groundwater quality standards are demonstrated to have been met.

In addition to the environmental easement, the New York State Department of Health State Sanitary Code regulates installation of private potable water supply wells in Suffolk County, adding an additional level of control. Furthermore, EPA would rely on the current zoning in the area as another safeguard to restrict the land use to commercial and industrial uses.

Table 3: Cost Data for Alternative 2

Capital Cost	$0 *
O & M Cost	$28,860
Present Worth Cost	$124,000
Construction Time	N/A

* the capital cost is considered to be zero based on the fact that the two SVE systems were both constructed and installed previous to the signing of this Record of Decision.

Alternative 3: Continued Operation of Two SVE Systems and Installation and Operation of an Air Sparging System

This alternative incorporates the continued operation of the two SVE systems (one on the north side of the building and one on the south side of the building) described above in Alternative 2. In addition, this alternative would include the installation and operation of an air sparging system. Air sparging is the process of injecting air directly into groundwater. Air sparging remediates groundwater by volatilizing contaminants. Essentially, air is injected into the groundwater causing bubbling. The volatile contaminants are stripped from the groundwater bound to the rising bubbles, and are carried up into the overlying soil. As the contaminants move into the soil, the SVE system would be used to remove the contaminants. In addition, this alternative includes the groundwater monitoring program, Site Management Plan, and Institutional Controls described above under Alternative 2.

Table 4: Cost Data for Alternative 3

Capital Cost	$122,000
O & M Cost	$76,454
Present Worth Cost	$504,270
Construction Time	8 to 12 months

COMPARATIVE ANALYSIS OF ALTERNATIVES

In selecting a remedy for a site, EPA considers the factors set forth in CERCLA §121, 42 U.S.C. § 9621, by conducting a detailed analysis of the viable remedial alternatives pursuant to the NCP, 40 CFR §300.430(e)(9), and EPA OSWER Directive 9355.3-01. The detailed analysis consists of an assessment of the individual alternatives against each of nine evaluation criteria and a comparative analysis focusing upon the relative performance of each alternative against those criteria.

- Overall protection of human health and the environment addresses whether or not a remedy provides adequate protection and describes how risks posed through each exposure pathway (based on a reasonable maximum exposure scenario) are eliminated, reduced, or controlled through treatment, engineering controls, or institutional controls.

- Compliance with applicable or relevant and appropriate requirements addresses whether or not a remedy would meet all of the applicable or relevant and appropriate requirements of other federal and state environmental statutes and regulations or provide grounds for invoking a waiver.

- Long-Term effectiveness and permanence refers to the ability of a remedy to maintain reliable protection of human health and the environment over time, once cleanup goals have been met. It also addresses the magnitude and effectiveness of the measures that may be required to manage the risk posed by treatment residuals and/or untreated wastes.

- Reduction of toxicity, mobility, or volume through treatment is the anticipated performance of the treatment technologies, with respect to these parameters, that a remedy may employ.

- Short-Term effectiveness addresses the period of time needed to achieve protection and any adverse impacts on human health and the environment that may be posed during the construction and implementation period until cleanup goals are achieved.

- Implementability is the technical and administrative feasibility of a remedy, including the availability of materials and services needed to implement a particular option.

- Cost includes estimated capital and operation and maintenance costs, and net present-worth costs.

- State acceptance indicates whether, based on its review of the RI/FS reports, the Proposed Plan, and a draft ROD, the State concurs with, opposes, or has no comment on the preferred remedy for a Site.

- Community acceptance will be assessed in the ROD, and refers to the public's general response to the alternatives described in the Proposed Plan and the RI/FS reports.

A comparative analysis of these alternatives based upon the evaluation criteria noted above, follows.

Comparative Analysis of Alternatives

1. Overall Protection of Human Health and the Environment

Alternative 1 would not be protective of human health and the environment, since it would not actively address the contaminated soils which are a source of groundwater and indoor air contamination at the Site. Alternatives 2 and 3 would be protective of human health and the environment, since each alternative relies upon a remedial strategy or treatment technology capable of eliminating human exposure and mitigating the source of groundwater and indoor air contamination.

2. Compliance with ARARs

The indoor air, groundwater, and soil cleanup objectives used for the Site are based on the cleanup objectives cited earlier in the RAO Section.

The contamination in the soils and below the slab of the building on the Site property would not be addressed under Alternative 1. As such, vapor intrusion into the building would continue unabated and indoor air cleanup objectives would not be achieved. Alternatives 2 and 3 would, through operation of the SVE systems, each achieve indoor air cleanup objectives for the Site by remediating the source areas and the area below the slab of the building, and, thereby, mitigate vapor intrusion into the building.

Furthermore, through remediating the source areas, Alternatives 2 and 3 reduce and/or eliminate migration of contaminants from these source areas to groundwater. As such, Alternatives 2 and 3 may contribute to the decreasing trend of contaminants in groundwater.

Although Alternative 3 does employ an active groundwater remediation technology, groundwater contaminant levels have been detected at levels well below those where this technology is typically used, and, as such, this technology does not offer any significant advantage over operation of the SVE systems alone. Furthermore, as there is no discernable, site-related groundwater contaminant plume to address, Alternative 3 does not offer any real advantage over Alternative 2 in terms of reducing levels of contaminants in groundwater.

In addition, Alternatives 2 and 3 would require compliance with air emission standards for the SVE systems. Specifically, treatment of off-gases would have to meet the substantive requirements of New York State Regulations for Prevention and Control of Air Contamination and Air Pollution (6 NYCRR Part 200, et seq.) and comply with the substantive requirements of other state and federal air emission standards.

3. Long-Term Effectiveness and Permanence

Alternative 1 would not involve any active remedial measures, and, as such, not be effective in eliminating the potential exposure to contaminants in soil and would result in the continued migration of contaminants from the soil to indoor air and the groundwater. Alternatives 2 and 3 would each be effective in the long term by permanently removing the contaminants from the soils through the operation of the two SVE systems.

4. Reduction in Toxicity, Mobility or Volume through Treatment

Alternatives 1 would provide no reduction in toxicity, mobility, or volume of contaminants. Under Alternatives 2 and 3, the toxicity, mobility, and volume of the contaminants would be reduced by removing contamination from Site soils through treatment by SVE. Furthermore, Alternatives 2 and 3 would reduce the migration of contaminants from soil to both indoor air and groundwater. Though Alternative 3 does employ an active groundwater remediation technology, groundwater contaminant levels have been detected at levels well below those where this technology is typically used, and there is no discernable Site related plume to address. As such, this technology does not offer any significant advantage over operation of the SVE systems alone relative to reducing the concentration or volume of contaminants in the groundwater.

5. Short-Term Effectiveness

Alternative 1 does not include any physical construction measures in any areas of contamination and, therefore, would not present any potential adverse impacts to on-Site workers or the community as a result of its implementation. Alternative 3 could result in some exposure to on-property workers through dermal contact and inhalation related to the installation of the air sparging system. The risks to on-property workers under Alternative 3 could, however, be mitigated by following appropriate health and safety protocols, by exercising sound engineering practices, and by using proper protective equipment.

Since no actions would be performed under Alternative 1, there would be no implementation time. The SVE systems associated with Alternative 2 are already in operation, so there would be no additional implementation time. It is estimated that Alternative 3 would require a few months to complete installation of the air sparging system. It is also estimated that Alternatives 2 and 3 would require two to five years to complete, though groundwater monitoring would likely continue several more years.

6. Implementability

Alternative 1 would be the easiest alternative to implement in that there are no field activities to undertake.

The technologies presented in Alternatives 2 and 3 have been used at other Superfund sites and have been proven effective, reliable, and readily implemented. In addition, the actions under these alternatives would be administratively feasible.

Monitoring the effectiveness of the SVE systems (in Alternatives 2 and 3) would be easily accomplished through soil-vapor and indoor air sampling and analysis.

7. Cost

The estimated capital, annual O&M (including monitoring), and present-worth costs for each of the alternatives are presented in the table below.

Alternative	Capital Cost	Annual O&M	Present Worth
1	$0	$0	$0
2	$0	$28,860	$124,000
3	$122,000	$76,500	$504,000

According to the capital cost, O&M cost and present worth cost estimates, Alternative 1 has the lowest cost and Alternative 3 has the highest cost. As discussed earlier, Alternative 3 does not offer any significant advantage over operation of the SVE systems alone (as presented in Alternative 2), so the additional cost to implement Alternative 3 is not warranted.

8. State Acceptance

New York State (NYSDEC and NYSDOH) concurs with the selected remedy.

9. Community Acceptance

During the public comment period, the community expressed some concerns about the Proposed Remedy. The attached Responsiveness Summary summarizes all of the community comments on the Proposed Plan and EPA's responses to those comments.

PRINCIPAL THREAT WASTE

The NCP establishes an expectation that EPA will use treatment to address the principal threats posed by a site wherever practicable (NCP Section 300.430 (a)(1)(iii)(A)). The "principal threat" concept is applied to the characterization of "source materials" at a Superfund site. Source material is material that includes or contains hazardous substances, pollutants, or contaminants that act as a reservoir for the migration of contamination to groundwater, surface water, or air, or act as a source for direct exposure. Principal threat wastes are those source materials considered to be highly toxic or highly mobile that generally cannot be reliably contained, or would present a significant risk to human health or the environment should exposure occur. The decision to treat these wastes is made on a site-specific basis through a detailed analysis of alternatives, using the remedy selection criteria which were described above. The manner in which principal threats are addressed provides a basis for making a statutory finding that the remedy employs treatment as a principal element.

Although treatment will be applied to the VOC-contaminated soil, there are no principal threats at the Site. The identified contamination is in the groundwater, on-Site soils, and indoor air; no evidence was found during the remedial investigation that nonaqueous phase liquids are present within the aquifers. Soil sample results indicate that while source materials are present, they are not considered to be high in concentration, highly toxic, or highly mobile and could be remediated in place. Therefore, no principal threat wastes are present at the Site.

SELECTED REMEDY

Based upon an evaluation of the various alternatives, EPA is selecting Alternative 2 as the preferred alternative. This alternative would substantially reduce contamination in the source areas and reduce the amount of time needed to achieve cleanup objectives for indoor air.

Summary of the Rationale for the Selected Remedy

EPA chose the source control remedy (SVE systems) because this alternative best meets the cleanup objectives by treating contaminated soils at the Site and thereby eliminating the sources of ongoing indoor air and potential groundwater contamination. The alternative reduces the volume, mobility, and toxicity of the contaminants in soils at the Site by permanently removing the contaminants from the soil.

Based on information used in evaluating the alternatives, EPA and NYSDEC believe that the Alternative 2 would be protective of human health and the environment, would comply with ARARs, would be cost-effective, and would utilize permanent solutions to the maximum extent practicable. Because it would treat the source materials, the remedy would also meet the statutory preference for the selection of a remedy that involves treatment as a principal element.

Description of Selected Remedy

The selected remedy includes the following components:

<u>Treatment of soils and contaminants below the slab of the on-Site building through continued operation of SVE systems</u>: SVE is a remedial technology that reduces concentrations of volatile organics adsorbed to soils in the unsaturated (vadose) zone. Volatile constituents of the contaminant mass "evaporate" and the vapors are drawn towards the extraction wells. The vapors are extracted (removed) from the ground by applying a vacuum to pull the vapors out. The air would be treated, if necessary, using carbon adsorption, prior to being re-circulated or exhausted to the atmosphere. During the SVE mode, the system would be operated at higher air flow rates which would be selected to optimize the removal of the VOCs constituents using SVE.

Long-term Groundwater Monitoring Program: A long-term groundwater monitoring program will be implemented to verify that the concentrations and the extent of the groundwater contaminants are declining. Results of the long-term groundwater monitoring will be used to evaluate the effectiveness of the remedy.

Indoor Air and Sub-Slab Monitoring Program: An indoor air and sub-slab monitoring program will be implemented to verify that the indoor air concentrations are declining. Results of this monitoring will be used to evaluate the effectiveness of the remedy.

Institutional Controls: To protect human health from exposure to the existing contamination while cleanup is ongoing, institutional controls, which may include an environmental easement/restrictive covenant filed in the property records of Suffolk County. The environmental easement/restrictive covenant would, at a minimum, require: (a) limit the use of the property to commercial and industrial uses; (b) restricting new construction at the Site unless an evaluation of the potential for vapor intrusion is conducted and mitigation, if necessary, is performed in compliance with an EPA-approved SMP; and (c) restricting the use of groundwater as a source of potable or process water unless groundwater quality standards are met.

Site Management Plan: A SMP will be developed to address soil and groundwater at the Site and will provide for the proper management of all Site remedy components post-construction, including the institutional controls discussed above, and will also include: (a) monitoring of Site groundwater to ensure that, following remedy implementation, the groundwater quality improves; (b) provision for any operation and maintenance required of the components of the remedy; and (c) periodic certifications by the owner/operator or other person implementing the remedy that any institutional and engineering controls are in place.

Engineering Controls: Engineering controls, including proper housing of the SVE systems, would be implemented to prevent inadvertent exposure to Site contaminants by the local populace.

Five-Year Review: Hazardous substances remain at this Site above levels that would not allow for unlimited use and unrestricted exposure for at least five years. Pursuant to Section 121(c) of CERCLA, EPA will review site remedies no less often than every five years. The first five-year review would be performed in 2013.

Summary of the Estimated Remedy Costs: Detailed cost estimates for the Selected Remedy can be found in Appendix VI. The information in the cost estimate summary tables is based on the best available information regarding the anticipated scope of the remedial alternative. Changes in the cost elements are likely to occur as a result of new information and data collected during the engineering design and implementation of the remedial alternative. Depending on their magnitude, changes may be documented in the form of a memorandum in the Administrative Record file, an Explanation of Significant Difference, or a ROD amendment. This is an order-of-magnitude engineering cost estimate that is expected to be within +50% to -30% of the actual project cost.

Expected Outcomes of the Selected Remedy: The results of the human health risk assessment indicated that there are unacceptable hazards from potential exposure to indoor air and to groundwater through ingestion and inhalation.

All groundwater at the Site is classified as GA, which is groundwater suitable as a source of drinking water. Currently, all residents in the vicinity of the Site receive their drinking water from the public water supply.

The selected remedy will:

- Prevent or minimize potential, current, and future human exposures including inhalation of vapors and ingestion of groundwater contaminated with VOCs;
- Prevent exposure of human receptors to contaminated soils;
- Remediate contaminated soils and contamination below the slab of the building;
- Minimize migration of contaminants from soils to groundwater; and

- Minimize migration of contaminants from soils to indoor air.

STATUTORY DETERMINATIONS

As previously noted, Section 121(b)(1) of CERCLA mandates that a remedial action must be protective of human health and the environment, be cost effective, and utilize permanent solutions and alternative treatment or resource recovery technologies to the maximum extent practicable. Section 121(b)(1) also establishes a preference for remedial actions which employ treatment to permanently and significantly reduce the volume, toxicity, or mobility of the hazardous substances, pollutants, or contaminants at the Site. Section 121(d) of CERCLA further specifies that a remedial action must attain a degree of cleanup that satisfies ARARs under federal and state laws, unless a waiver can be justified pursuant to section 121(d)(4) of CERCLA. As discussed below, EPA has determined that the Selected Remedy meets the requirements of Section 121 of CERCLA.

Protection of Human Health and the Environment

The Selected Remedy will adequately protect human health and the environment through removal of contaminants from both Site soil and contamination below the slab of the building via operation of SVE systems.

Compliance with ARARs

At the completion of the response or remedial action, the remedy will have complied with appropriate ARARs (see Appendix II, Table G)

Cost-Effectiveness

EPA has determined that the selected remedy is cost effective in mitigating the principal risks posed by contaminated soil, indoor air, and groundwater. Section 300.430(f)ii)(D) of the NCP requires evaluation of cost effectiveness. Overall effectiveness is determined by the following three balancing criteria: long-term effectiveness and permanence; reduction of toxicity, mobility, and volume through treatment; and short-term effectiveness. Overall effectiveness is then compared to the cost to ensure that the remedy is cost effective. The selected remedy meets the criteria and provides for overall effectiveness in proportion to its cost. The estimated present worth of the Selected Remedy is $124,000.

Utilization of Permanent Solutions and Alternative Treatment Technologies to the Maximum Extent Practicable

EPA has determined that the selected remedy utilizes permanent solutions and alternative treatment technologies to the maximum extent practicable, and it provides the best balance of trade-offs in terms of the five balancing criteria, while also taking into consideration the statutory preference for treatment as a principal element and considering State and community acceptance.

Of those alternatives considered to address the contamination at the Site, the selected remedy is a permanent remedy that treats the soil and thereby removes the source(s) of indoor air and groundwater contamination. The SVE systems will reduce the mass of contaminants in the subsurface, thereby reducing the toxicity, mobility, and volume of contamination. Furthermore, operation of the SVE systems holds the advantage of accelerating the cleanup at the Site.

Preference for Treatment as a Principal Element

By using technologies that permanently remove contaminants from the soil, the Selected Remedy satisfies the statutory preference for remedies that employ treatment as a principal element.

Five-Year Review Requirements

Hazardous substances may remain at this Site above levels that would allow for unlimited use and unrestricted exposure. Pursuant to Section 121(c) of CERCLA, EPA will review site remedies no less often than every five years. As all construction activities have already been completed, the first five-year review is due within five years of the signing of this Record of Decision. As such, the first five-year review will be due in the year 2013.

DOCUMENTATION OF SIGNIFICANT CHANGES

The Proposed Plan for the Site was released for public comment on August 8, 2008 and the public comment period ran from that date through September 6, 2008. The Proposed Plan identified Alternative 2 (Operation of two SVE systems) as the Preferred Alternative.

All written and verbal comments submitted during the public comment period were reviewed by EPA. EPA has determined that no significant changes to the remedy, as it was originally identified in the Proposed Plan, are necessary.

APPENDICES

FIGURE 1

SITE LOCATION MAP

FIGURE 1
SITE LOCATION
145 MARCUS BLVD
HAUPPAUGE, NEW YORK

Yahoo! Maps - 145 MARCUS BLVD, Hauppauge, NY 11788, US

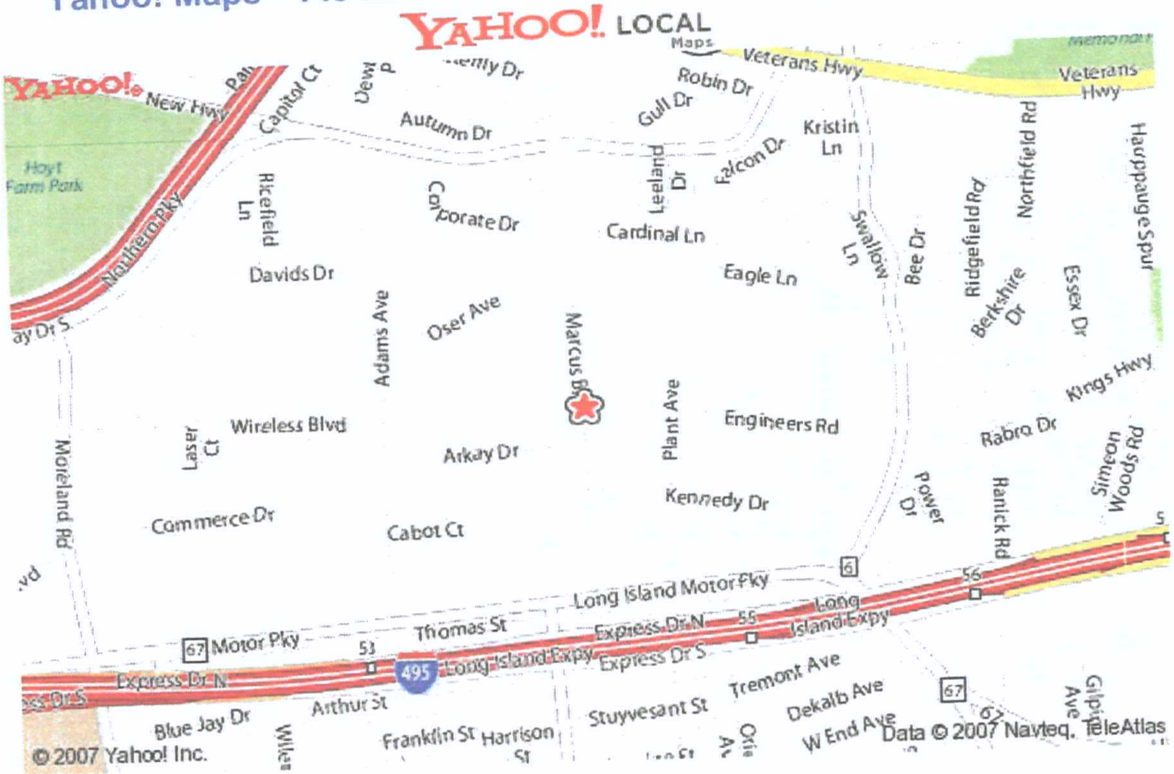

FIGURE 2

GROUNDWATER MONITORING WELL
AND SVE WELL
LOCATION MAP
145 MARCUS BLVD
HAUPPAUGE, NEW YORK

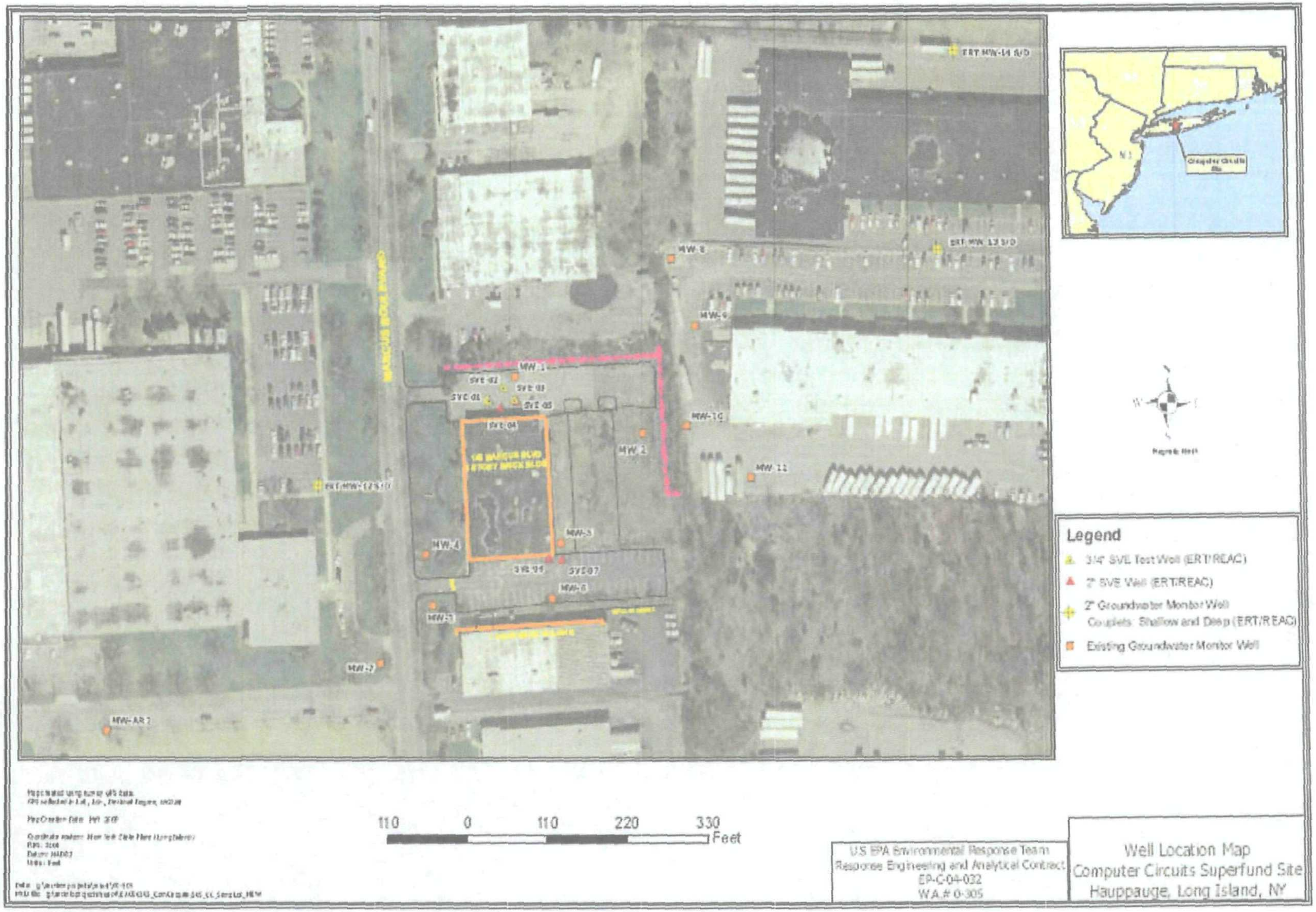
ERT-MW-14 S/D
ERT-MW-13 S/D
ERT-MW-12 S/D
MW-1
MW-2
MW-3
MW-4
MW-6
MW-7
MW-8
MW-9
MW-10
MW-11
MW-AR1
SVE-01
SVE-02
SVE-03
SVE-04
SVE-05
SVE-06
SVE-07
MARCUS BLVD
Computer Circuits Site
NJ
Legend
3/4" SVE Test Well (ERT/REAC)
2" SVE Well (ERT/REAC)
2" Groundwater Monitor Well
Couplets: Shallow and Deep (ERT/REAC)
Existing Groundwater Monitor Well
110 0 110 220 330
Feet
U.S. EPA Environmental Response Team
Response Engineering and Analytical Contract
EP-C-04-032
W.A.# 0-305
Well Location Map
Computer Circuits Superfund Site
Hauppauge, Long Island, NY

FIGURE 3

Indoor Air and Sub-Slab Sampling Figure

Legend

Sub-slab   Ambient

Indoor air   PCE / TCE (µg/m³)

ND - Not Detected

U.S EPA Environmental Response Team
Response Engineering and Analytical Contract
EP-C-04-032
W.A.# 0-305

Figure 1
Air Sampling Locations - May 2008
Computer Circuits Site
Hauppague, Long Island, NY

APPENDIX II

Tables

TABLE 1
Summary of Chemicals of Concern and Medium-Specific Exposure Point Concentrations

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater

Exposure Point	Chemical of Concern	Concentration Detected		Concentration Units	Frequency of Detection	Exposure Point Concentration (EPC)	EPC Units	Statistical Measure
		Min	Max					
Tap Water	Tetrachloroethene	1	370	μg/l	34/38	112	μg/l	95% UCL-T
	Trichloroethene	1	280	μg/l	35/38	166	μg/l	95% UCL-T

Scenario Timeframe: Future
Medium: Air
Exposure Medium: Air

Exposure Point	Chemical of Concern	Concentration Detected		Concentration Units	Frequency of Detection	Exposure Point Concentration (EPC)	EPC Units	Statistical Measure
		Min	Max					
Indoor Air	Trichloroethene	10	220	$\mu g/m^3$	-----	190.2	$\mu g/m^3$	95% UCL-T
	Methylene chloride	10	41	$\mu g/m^3$	-----	1427.4	$\mu g/m^3$	95% UCL-T

95% UCL-T – 95% Upper-confidence level of transformed data
Maximum: Maximum Detected Concentration

Summary of Chemicals of Concern and Medium-Specific Exposure Point Concentrations

This table presents the chemicals of concern (COCs) and exposure point concentrations (EPCs) for each of the COCs detected in groundwater and indoor air (i.e., the concentration that will be used to estimate the exposure and risk from each COC). The table includes the range of concentrations detected for each COC, as well as the frequency of detection (i.e., the number of times the chemical was detected in the samples collected at the site), the EPC and how it was derived.

TABLE 2
SELECTION OF EXPOSURE PATHWAYS

Scenario Timeframe	Medium	Exposure Medium	Exposure Point	Receptor Population	Receptor Age	Exposure Route	On-Site/ Off-Site	Type of Analysis	Rationale for Selection or Exclusion of Exposure Pathway
Current/ Future	Groundwater	Groundwater	Tap Water	Resident	Adult	Ingestion/ Dermal/Inhalation	Off-site	Quant.	Supply well to provide water to residents and businesses could be impacted in the future.
					Child	Ingestion/ Dermal/Inhalation	Off-site	Quant.	Supply well to provide water to residents and businesses could be impacted in the future.
				Commercial Worker	Adult	Ingestion	On-site	Quant.	Supply well to provide water to residents and businesses could be impacted in the future.
			Indoor Air	Resident	Adult	Inhalation	Off-site	Quant.	Groundwater concentrations were qualitatively evaluated and vapor intrusion was identified as a potentially completed pathway.
					Child	Inhalation	Off-site	Quant.	Groundwater concentrations were qualitatively evaluated and vapor intrusion was identified as a potentially completed pathway.
				Commercial Worker	Adult	Inhalation	On-site	Quant	Groundwater concentrations were qualitatively evaluated and vapor intrusion was identified as a completed pathway.

Quant = Quantitative risk analysis performed.

Summary of Selection of Exposure Pathways

The table describes the exposure pathways associated with the groundwater and indoor air that were evaluated for the risk assessment, and the rationale for the inclusion of each pathway. Exposure media, exposure points, and characteristics of receptor populations are included.

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TABLE 3

Non-Cancer Toxicity Data Summary

Pathway: Oral/Dermal

Chemical of Concern	Chronic/ Subchronic	Oral RfD Value	Oral RfD Units	Absorp. Efficiency (Dermal)	Adjusted RfD (Dermal)	Adj. Dermal RfD Units	Primary Target Organ	Combined Uncertainty /Modifying Factors	Sources of RfD: Target Organ	Dates of RfD:
Tetrachloroethene	Chronic	1.0E-02	mg/kg-day	-----	1.0E-02	mg/kg-day	Liver	1000	IRIS	10/13/04
Trichloroethene	Chronic	3.0E-04	mg/kg-day	-----	3.0E-04	mg/kg-day	CNS Liver	na	NCEA	10/13/04

Pathway: Inhalation

Chemical of Concern	Chronic/ Subchronic	Inhalation RfC	Inhalation RfC Units	Inhalation RfD	Inhalation RfD Units	Primary Target Organ	Combined Uncertainty /Modifying Factors	Sources of RfD: Target Organ	Dates:
Tetrachloroethene	Chronic	-----	-----	1.7E-01	mg/kg-day	Liver	na	NCEA	10/13/04
Trichloroethene	Chronic	4.0E-02	mg/m^3	1.0E-02	mg/kg-day	CNS Liver	na	NCEA	10/13/04
Methylene chloride	Chronic	na	na	na	na	na	na	HEAST	10/13/04

Key

na: No information available
IRIS: Integrated Risk Information System, U.S. EPA
NCEA: National Center for Environmental Assessment
HEAST: Health Effects Assessment Summary Tables
CNS: Central Nervous System

Summary of Toxicity Assessment

This table provides non-carcinogenic risk information which is relevant to the contaminants of concern in groundwater and indoor air. When available, the chronic toxicity data have been used to develop oral reference doses (RfDs) and inhalation reference doses (RfDi).

TABLE 4

Cancer Toxicity Data Summary

Pathway: Oral/Dermal

Chemical of Concern	Oral Cancer Slope Factor	Units	Adjusted Cancer Slope Factor (for Dermal)	Slope Factor Units	Weight of Evidence/ Cancer Guideline Description	Source	Date
Tetrachloroethene	5.2E-02	$(mg/kg/day)^{-1}$	5.2E-02	$(mg/kg/day)^{-1}$	B1	NCEA	10/12/04
Trichloroethene	4.0E-01	$(mg/kg/day)^{-1}$	4.0E-01	$(mg/kg/day)^{-1}$	B1	NCEA	10/12/04

Pathway: Inhalation

Chemical of Concern	Unit Risk	Units	Inhalation Slope Factor	Slope Factor Units	Weight of Evidence/ Cancer Guideline Description	Source	Date
Tetrachloroethene	5.8E-04	$(\mu g/m3)^{-1}$	2.0E-02	$(mg/kg/day)^{-1}$	C	IRIS	10/12/04
Trichloroethene	1.7E-03	$(\mu g/m3)^{-1}$	4.0E-01	$(mg/kg/day)^{-1}$	C	NCEA	10/12/04
Methylene chloride	4.7E-04	$(\mu g/m3)^{-1}$	1.6E-03	$(mg/kg/day)^{-1}$	B2	IRIS	10/13/04

Key:

NCEA – National Center for Environmental Assessment
EPA – U.S. Environmental Protection Agency
IRIS: Integrated Risk Information System. U.S. EPA
na: No information available

EPA Weight of Evidence:

A - Human carcinogen
B1 - Probable Human Carcinogen-Indicates that limited human data are available
B2 - Probable Human Carcinogen-Indicates sufficient evidence in animals associated with the site and inadequate or no evidence in humans
C - Possible human carcinogen
D - Not classifiable as a human carcinogen
E- Evidence of noncarcinogenicity

Summary of Toxicity Assessment

This table provides carcinogenic risk information which is relevant to the contaminants of concern in groundwater and indoor air. Toxicity data are provided for both the oral and inhalation routes of exposure.

TABLE 5

Risk Characterization Summary - Noncarcinogens

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Chemical of Concern	Primary Target Organ	Non-Carcinogenic Risk			
					Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	Tap Water	Trichloroethene	Liver	3E-06	1.2E+01	5.1E-07	1.2E+01
							Hazard Index Total	1.2E+01

Summary of Risk Characterization - Non-Carcinogens

The table presents hazard quotients (HQs) for each route of exposure and the hazard index (sum of hazard quotients) that exceeded the acceptable value of 1. The Risk Assessment Guidance for Superfund states that, generally, a hazard index (HI) greater than 1 indicates the potential for adverse non-cancer effects.

TABLE 6

Risk Characterization Summary - Carcinogens

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Concern	Carcinogenic Risk			
				Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	Tap Water	Tetrachloroethene	6.8E-05	3.4E-05	4.2E-05	1.4E-04
			Trichloroethene	7.7E-04	1.1E-03	1.3E-04	2.0E-03
						Total Risk =	2.1E-03

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Chemical of Concern	Carcinogenic Risk			
				Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	Tap Water	Tetrachloroethene	3.2E-05	1.2E-04	1.9E-05	1.7E-04
			Trichloroethene	3.7E-04	4.0E-03	6.0E-05	4.4E-03
						Total Risk =	4.6E-03

Scenario Timeframe: Current/Future
Receptor Population: Commercial Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Concern	Carcinogenic Risk			
				Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	Tap Water	Tetrachloroethene	2.0E-05	-----	-----	2.0E-05
			Trichloroethene	2.3E-04	-----	-----	2.3E-04
						Total Risk =	2.5E-04

Scenario Timeframe: Current/Future
Receptor Population: Commercial Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Concern	Carcinogenic Risk			
				Ingestion	Inhalation (Indoor Air)	Dermal	Exposure Routes Total
Air	Air	Indoor Air	Methylene chloride	-----	1.6E-04	-----	1.6E-04
			Trichloroethene	-----	5.3E-03	-----	5.3E-03
						Total Risk =	5.5E-03

Summary of Risk Characterization - Carcinogens

The table presents cancer risks for each route of exposure and for all routes of exposure combined that exceed EPA's acceptable risk range. As stated in the National Contingency Plan, the acceptable risk range for site-related exposure is 10^{-6} to 10^{-4}.

Table 7
ARARs, Criteria, and Guidance
Computer Circuits Site
Hauppauge, New York

Regulatory Level	ARARs, Criteria, and Guidance	Requirement Synopsis
Federal	National Primary Drinking Water Standards (40 CFR Part 141) Maximum Contaminant Levels (MCLs) and Maximum Contaminant Level Goals (MCLGs). Safe Drinking Water Act (SDWA) [42 U.S.C.§ 300F et. Seq.)	Establishes health-based standards for public drinking water systems. Also establishes drinking water quality goals set at levels at which no adverse health effects are anticipated, with an adequate margin of safety.
State	New York Surface Water and Groundwater Quality Standards and Groundwater Effluent Limitations (6NYCRR Part 703)	Establish numerical standards for groundwater and surface water cleanups.
State	New York State Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations (Technical and Operational Guidance Series 1.1.1)	Provides ambient water quality guidance values and groundwater effluent limitations for use where there are no standards.
State	New York State Department of Health Drinking Water Standards (10NYCRR Part 5)	Sets maximum contaminant levels (MCLs) for public drinking water supplies.

Table 7
ARARs, Criteria, and Guidance
Computer Circuits Site
Hauppauge, New York

Regulatory Level	ARARs, Criteria, and Guidance	Requirement Synopsis
State	Environmental Remediation Programs, 6 NYCRR Part 375, Remedial Program Soil Cleanup Objectives, Subpart 375-6, Unrestricted Use Soil Cleanup Objectives, Table 375-6.8(a) and Restricted Use Soil Cleanup Objectives, Table 375-6.8(b)	Establish numerical and procedural standards for soil cleanups.

Regulatory Level	ARARs, Criteria, and Guidance	Requirement Synopsis
Federal	Policy on Floodplains and Wetland Assessments for CERCLA Actions (OSWER Directive 9280.0-12, 1985)	Superfund actions must meet the substantive requirements of E.O. 11988, E.O. 11990, and 40 CFR part 6, Appendix A.
Federal	National Environmental Policy Act (NEPA) (42 USC 4321; 40 CFR 1500 to 1508)	This requirement sets forth EPA policy for carrying out the provisions of the Wetlands Executive Order (EO 11990) and Floodplain Executive Order (EO 11988).
General	National Historic Preservation Act (40 CFR 6.301)	This requirement establishes procedures to provide for preservation of historical and archeological data that might be destroyed through alteration of terrain as a result of a federal construction project or a federally licensed activity or program.
State	Endangered and Threatened Species of Fish and Wildlife (Part 182)	Standards for the protection of threatened and endangered species

ARARs, Criteria, and Guidance	Requirement Synopsis
RCRA Identification and Listing of Hazardous Wastes (40 CFR 261)	Describes methods for identifying hazardous wastes and lists known hazardous wastes.
RCRA Standards Applicable to Generators of Hazardous Wastes (40 CFR 262)	Describes standards applicable to generators of hazardous wastes.
RCRA—Standards for Owners/Operators of Permitted Hazardous Waste Facilities (40 CFR 264.10–164.18)	This regulation lists general facility requirements including general waste analysis, security measures, inspections, and training requirements.
RCRA—Preparedness and Prevention (40 CFR 264.30–264.31)	This regulation outlines the requirements for safety equipment and spill control.
RCRA—Contingency Plan and Emergency Procedures (40 CFR 264.50–264.56)	This regulation outlines the requirements for emergency procedures to be used following explosions, fires, etc.
New York Hazardous Waste Management System – General (6 NYCRR Part 370)	This regulation provides definition of terms and general standards applicable to hazardous wastes management system.
New York Solid Waste Management Regulations (6 NYCRR 360)	Sets standards and criteria for all solid waste management facilities, including design, construction, operation, and closure requirements for the municipal solid waste landfills.
New York Identification and Listing of Hazardous Waste (6 NYCRR Part 371)	Describes methods for identifying hazardous wastes and lists known hazardous wastes.
Department of Transportation (DOT) Rules for Transportation of Hazardous Materials (49 CFR Parts 107, 171, 172, 177 to 179)	This regulation outlines procedures for the packaging, labeling, manifesting, and transporting hazardous materials.
RCRA Standards Applicable to Transporters of Hazardous Waste (40 CFR 263)	Establishes standards for hazardous waste transporters.
New York Hazardous Waste Manifest System and Related Standards for Generators, Transporters and Facilities (6 NYCRR Part 372)	Establishes record keeping requirements and standards related to the manifest system for hazardous wastes.
New York Waste Transporter Permit Program (6 NYCRR Part 364)	Establishes permit requirements for transportations of regulated waste.

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ARARs, Criteria, and Guidance	Requirement Synopsis
New York Standards for Universal Waste (6 NYCRR Part 374-3) and Land Disposal Restrictions (6 NYCRR Part 376)	These regulations establish standards for treatment and disposal of hazardous wastes.
Safe Drinking Water Act – Underground Injection Control Program (40 CFR 144, 146)	Establish performance standards, well requirements, and permitting requirements for groundwater re-injection wells
New York Surface Water and Groundwater Quality Standards and Groundwater Effluent Limitations (6NYCRR Part 703)	Establish numerical criteria for groundwater treatment before discharge.
New York State Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations (TOGS 1.1.1)	Provides groundwater effluent limitations for use where there are no standards.
Clean Air Act (CAA)—National Ambient Air Quality Standards (NAAQs) (40 CFR 50)	*These provide air quality standards for particulate matter and volatile organic matter.*
Federal Directive – Control of Air Emissions from Superfund Air Strippers (OSWER Directive 9355.0-28)	These provide guidance on the use of controls for superfund site air strippers as well as other vapor extraction techniques in attainment and non-attainment areas for ozone.
New York General Prohibitions (6 NYCRR Part 211)	Prohibition applies to any particulate, fume, gas, mist, odor, smoke, vapor, pollen, toxic or deleterious emissions.
New York Air Quality Standards (6 NYCRR Part 257)	This regulation requires that maximum 24-hour concentrations for particulate matter not be exceeded more than once per year. Fugitive dust emissions from site excavation activities must be maintained below 250 micrograms per cubic meter ($\mu g/m^3$).

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ARARs, Criteria, and Guidance	Requirement Synopsis
New York Division of Air Resources DAR-1 (Air Guide-1) AGC/SGC Tables	The tables provide guideline concentrations for toxic ambient air contaminants.

Table 8: Groundwater Sampling Data (concentrations are in μg/L) for TCE										
MONITORING WELL	Sampling Date									
	3/10/89	2/26/91	2/3/94	10/12/95	5/9/96	4/2002	7/2002	12/2002	6/2007	6/2008
AR-2							ND			ND
MW-1	1700	210	820	510	NS	39	46	15	NS	10
MW-2	3000	2600	1000	1400	400	200	280	28	NS	1.5
MW-3	560	31	380	300	10J	17	14	29	NS	0.41
MW-4	--	--	--	--	75	38	23	3J	NS	0.35
MW-5	--	--	--	--	180	31	100	NS	ND	0.8
MW-6	--	--	--	--	450	67	96	4J	NS	NS
MW-7	--	--	--	--	--	1J	ND	NS	ND	ND
MW-8	--	--	--	--	--	51	42	NS	14	5.06
MW-9	--	--	--	--	--	53	56	NS	17	11.3
MW-10	--	--	--	--	--	37	170	NS	8.3	2.98J
MW-11	--	--	--	--	--	5J	3J	NS	ND	24.0
MW-12S	--	--	--	--	--	--	--	--	--	11
MW-12D	--	--	--	--	--	--	--	--	--	0.79
MW-13S	--	--	--	--	--	--	--	--	--	9.4
MW-13D	--	--	--	--	--	--	--	--	--	0.76
MW-14S	--	--	--	--	--	--	--	--	--	12
MW-14D	--	--	--	--	--	--	--	--	--	0.53

NS indicates "Not Sampled"
ND indicates "Not Detected"
J indicates "estimated value"

Table 9: Groundwater Sampling Data (concentrations are in μg/L) for PCE										
	Sampling Date									
MONITORING WELL	3/10/89	2/26/91	2/3/94	10/12/95	5/9/96	4/2002	7/2002	12/2002	6/2007	6/2008
AR-2							ND			4
MW-1	ND	37	17	7	NS	7J	16	9J	NS	5.1
MW-2	ND	ND	11	12	6J	6J	5J	2J	NS	ND
MW-3	ND	ND	7	16	280	1J	ND	ND	NS	3.6
MW-4	--	--	--	--	17	2J	2J	ND	NS	ND
MW-5	--	--	--	--	7J	29	5J	NS	ND	31
MW-6	--	--	--	--	11	4J	4J	ND	NS	NS
MW-7	--	--	--	--	--	46	14	NS	ND	ND
MW-8	--	--	--	--	--	9J	8J	NS	ND	2.51J
MW-9	--	--	--	--	--	3J	3J	NS	11	6.07
MW-10	--	--	--	--	--	16	4J	NS	ND	ND
MW-11	--	--	--	--	--	370D	180	NS	36	ND
MW-12S	--	--	--	--	--	--	--	--	--	5
MW-12D	--	--	--	--	--	--	--	--	--	0.23
MW-13S	--	--	--	--	--	--	--	--	--	5.1
MW-13D	--	--	--	--	--	--	--	--	--	3.6
MW-14S	--	--	--	--	--	--	--	--	--	5.7
MW-14D	--	--	--	--	--	--	--	--	--	0.35

NS indicates "Not Sampled"
ND indicates "Not Detected"
J indicates "estimated value"

Table 10: Groundwater Sampling Data (concentrations are in μg/L) for 1,1,1-TCA										
	Sampling Date									
MONITORING WELL	3/10/89	2/26/91	2/3/94	10/12/95	5/9/96	4/2002	7/2002	12/2002	6/2007	6/2008
AR-2							2J			0.54
MW-1	160	110	40	22	NS	4J	6J	1J	NS	0.8
MW-2	240	190	52	45	17	6J	6J	2J	NS	ND
MW-3	48	71	15	20	170	2J	1J	4J	NS	0.42
MW-4	--	--	--	--	5J	2J	3J	6J	NS	4.9
MW-5	--	--	--	--	5J	6J	2J	NS	ND	3.9
MW-6	--	--	--	--	10J	2J	2J	ND	NS	NS
MW-7	--	--	--	--	--	56	12	NS	ND	0.31
MW-8	--	--	--	--	--	ND	4J	NS	ND	ND
MW-9	--	--	--	--	--	5J	3J	NS	ND	ND
MW-10	--	--	--	--	--	4J	4J	NS	ND	ND
MW-11	--	--	--	--	--	150	55	NS	6.1	3.20J
MW-12S	--	--	--	--	--	--	--	--	--	0.4
MW-12D	--	--	--	--	--	--	--	--	--	0.13
MW-13S	--	--	--	--	--	--	--	--	--	0.91
MW-13D	--	--	--	--	--	--	--	--	--	2.4
MW-14S	--	--	--	--	--	--	--	--	--	0.4
MW-14D	--	--	--	--	--	--	--	--	--	0.54

NS indicates "Not Sampled"
ND indicates "Not Detected"
J indicates "estimated value"

APPENDIX III

ADMINISTRATIVE RECORD INDEX

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1.0 SITE IDENTIFICATION

1.4 Site Investigation Reports

P. 100001 - 100219 Report: Engineering Investigations at Inactive Hazardous Waste Sites in the State of New York, Phase I Investigations, Computer Circuits, Town of Hauppauge, Suffolk County, New York, NYSDEC Site No. 152034, prepared by Woodward-Clyde Consultants, Inc., prepared for New York State Department of Environmental Conservation, January 1986.

4.0 FEASIBILITY STUDY

4.3 Feasibility Study Reports

P. 400001 - 400150 Report: Feasibility Study Report, Former Computer Circuits Site, 145 Marcus Boulevard, Hauppauge, Suffolk County, New York, Volume 1 of 1, prepared by P.W. Grosser Consulting, Inc. (PWGC), prepared for 145 Marcus Boulevard, Inc., June 18, 2007.

7.0 ENFORCEMENT

7.3 Administrative Orders

P. 700001 - 700033 Administrative Order on Consent for Remedial Investigation/Feasibility Study, Index No. CERCLA-02-2000-2036, United States Environmental Protection Agency, Region II, In the Matter of the Computer Circuits Superfund Site, 145 Marcus Blvd., Inc., Respondent. Proceeding under Sections 104 and 122 of the Comprehensive Environmental Response, Compensation, and Liability Act, as amended, 42 U.S.C. §§ 9604, 9622, September 29, 2000.

P. 700034 - 700066 Administrative Order on Consent for Removal Action, Index Number CERCLA-02-2004-2005, In the Matter of the Computer Circuits Superfund Site, 145 Marcus Blvd., Inc., Respondent. Proceeding under Section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. §9606(a), September 28, 2004.

8.0 HEALTH ASSESSMENTS

8.1 ATSDR Health Assessments

P. 800001 - 800040 Report: Public Health Assessment, Computer Circuits, Hauppauge, Suffolk County, New York, prepared by New York State Department of Health, Center for Environmental Health, prepared under a Cooperative Agreement with U.S. Department of Health & Human Services, Public Health Service, Agency for Toxic Substances and Disease Registry, July 20, 2001.

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3.0 REMEDIAL INVESTIGATION

3.4 Remedial Investigation Reports

P. 300001 - 300138 Report: Final Remedial Investigation Report, Former Computer Circuits Superfund Site, 145 Marcus Boulevard, Hauppauge, Suffolk County, New York, Volume 1 of 4, prepared by P.W. Grosser Consulting, Inc., prepared for 145 Marcus Blvd. Corporation, February 9, 2007.

P. 300139 - 300741 Report: Final Remedial Investigation Report, Former Computer Circuits Superfund Site, 145 Marcus Boulevard, Hauppauge, Suffolk County, New York, Volume 2 of 4, Appendix A through G, prepared by P.W. Grosser Consulting, Inc., prepared for 145 Marcus Blvd. Corporation, February 9, 2007.

P. 300742 - 301174 Report: Final Remedial Investigation Report, Former Computer Circuits Superfund Site, 145 Marcus Boulevard, Hauppauge, Suffolk County, New York, Volume 3 of 4, Appendix I through O (minus N), prepared by P.W. Grosser Consulting, Inc., prepared for 145 Marcus Blvd. Corporation, February 9, 2007.

P. 301175 - 301907 Report: Final Remedial Investigation Report, Former Computer Circuits Superfund Site, 145 Marcus Boulevard, Hauppauge, Suffolk County, New York, Volume 4 of 4, Appendix N, prepared by P.W. Grosser Consulting, Inc., prepared for 145 Marcus Blvd. Corporation, February 9, 2007.

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2.0 REMOVAL RESPONSE

2.2 Sampling and Analysis Data/Chain of Custody Forms

P. 200001 - 200258 Report: Sampling Report, Data Presentation, Computer Circuits, Hauppauge, Long Island, New York, Groundwater Sampling Event, May 27 - 4 June 2008, prepared by Mr. Michael A. Mercado, Environmental Scientist, and Mr. Robert Runyon, Chief, Hazardous Waste Support Branch (DESA/HWSB), U.S. Environmental Protection Agency, Region 2, undated.

P. 200259 - 200274 Report: Analytical Report, Computer Circuits Groundwater, Soil and Air Superfund Site, Hauppauge, Long Island, EPA Work Assignment No. 0-305, LOCKHEED MARTIN Work Order EAC00305, EPA Contract No. EP-C-04-032, prepared by LOCKHEED MARTIN, Inc., prepared for U.S. Environmental Protection Agency, Region 2, June 2, 2008.

P. 200275 - 200290 Report: Analytical Report, Computer Circuits Groundwater, Soil and Air Superfund Site, Hauppauge, Long Island, EPA Work Assignment No. 0-305, LOCKHEED MARTIN Work Order EAC00305, EPA Contract No. EP-C-04-032, prepared by LOCKHEED MARTIN, Inc., prepared for U.S. Environmental Protection Agency, Region 2, June 6, 2008.

P. 200291 - 200305 Report: Analytical Report, Computer Circuits Groundwater, Soil and Air Superfund Site, Hauppauge, Long Island, EPA Work Assignment No. 0-305, LOCKHEED MARTIN Work Order EAC00305, EPA Contract No. EP-C-04-032, prepared by LOCKHEED MARTIN, Inc., prepared for U.S. Environmental Protection Agency, Region 2, June 17, 2008.

P. 200306 - 200329 Memorandum to Mr. Jeff Catanzarita, U.S. EPA/ERT, from Mr. Michael Cartwright for Mr. Dave Aloysius, REAC Task Leader, Lockheed Martin Technology Services, re: Computer Circuits Superfund Site, Hauppauge, NY, May 2008 Soil Vapor Intrusion Sampling, Work Assignment #EAC00305 - Trip Report, July 11, 2008.

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2.0 REMOVAL RESPONSE

2.2 Sampling and Analysis Data/Chain of Custody Forms

P. 200330 - 200386 Technical Memorandum to Mr. Mark Dannenberg, Remedial Project Manager, Emergency & Remedial Response Division, U.S. Environmental Protection Agency, Region 2, from Mr. Louis DiGuardia, On-Scene Coordinator, Emergency & Remedial Response Division, Removal Action Branch, U.S. Environmental Protection Agency, Region 2, re: U.S. EPA Soil Vapor Extraction/Sub-slab System Evaluation - Final Report, Computer Circuits Superfund Site, Hauppauge, Suffolk County, New York, August 7, 2008.

10.0 PUBLIC PARTICIPATION

10.9 Proposed Plan

P. 10.00001- 10.00016 Report: Superfund Proposed Plan, Computer Circuits Superfund Site, Hauppauge, Suffolk County, New York, prepared by U.S. Environmental Protection Agency, Region 2, August 2008.

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10.0 PUBLIC PARTICIPATION

10.1 Comments and Responses

P. 10.00017- 10.00018 Letter to Mr. Dale Desnoyers, Director, Division of Environmental Remediation, NYS Department of Environmental Conservation, from Mr. Steven M. Bates, Assistant Director, Bureau of Environmental Exposure Investigation, State of New York, Department of Health, re: Proposed Plan, Computer Circuits Superfund Site, Site #152034, Hauppauge, Suffolk County, August 8, 2008.

10.3 Public Notices

P. 10.00019- 10.00019 Notice: United States Environmental Protection Agency Invites Public Comment on the Proposed Plan for the Computer Circuits Superfund Site, Hauppauge, Suffolk County, New York, prepared by U.S. Environmental Protection Agency, Region 2, printed in Newsday, August 8, 2008.

APPENDIX IV

STATE CONCURRENCE LETTER

New York State Department of Environmental Conservation
Division of Environmental Remediation, 12th Floor
625 Broadway, Albany, New York 12233-7011
Phone: (518) 402-9706 • **FAX:** (518) 402-9020
Website: www.dec.ny.gov

Alexander B. Grannis
Commissioner

SEP 30 2008

Mr. George Pavlou
Acting Director
Emergency and Remedial Response Division
USEPA Region II
290 Broadway, 19th Floor
New York, NY10007-1866

Re: Computer Circuits
Hauppauge, Suffolk County
NY Site No. 152034
Record of Decision (ROD)

Dear Mr. Pavlou:

The New York State Department of Environmental Conservation and the New York State Department of Health have reviewed the proposed Record of Decision (ROD) for the above subject site and concur with the description, reasons and determination made in the document.

If you have any questions regarding this matter, please contact Dr. Chittibabu Vasudevan or Mr. Joseph Yavonditte at (518) 402-9625.

Sincerely,

Dale A. Desnoyers
Director
Division of Environmental Remediation

ecc: D. Garbarini, USEPA
M. Dannenberg, USEPA
D. Miles, NYSDOH
S. Ervolina
C. Vasudevan
W. Parish
J. Yavonditte
K. Maloney

APPENDIX V

RESPONSIVENESS SUMMARY

RESPONSIVENESS SUMMARY

Computer Circuits Superfund Site

INTRODUCTION

A responsiveness summary is required by regulations promulgated under the Superfund statute. It provides a summary of citizens' comments and concerns received during the public comment period on the Computer Circuits Superfund Site (the Site) Proposed Plan, as well as the responses of the United States Environmental Protection Agency (EPA) to those comments and concerns. All comments summarized in this document have been considered by EPA in the selection of the remedy for the Computer Circuits Superfund Site.

SUMMARY OF COMMUNITY RELATIONS ACTIVITES

As lead agency for the Site, EPA has ensured that the Remedial Investigation and Feasibility Study ("RI/FS") Report, the 2008 Proposed Plan, and other documents in the Administrative Record have been made available for public review at information repositories at the EPA Region II Superfund Records Center, 290 Broadway, New York, NY, and at the Smithtown Public Library, One North Country Road, Smithtown, New York.

The Proposed Plan was prepared by EPA, with consultation from NYSDEC, and finalized on August 8, 2008. A notice of availability of the Proposed Plan and public comment period was published in *Newsday* on August 8, 2008 consistent with the requirements of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) §300.430(f)(3)(i)(A), and a summary of the Proposed Plan was mailed to all persons on the Site mailing list. The Proposed Plan was made available for review at the information repositories for the Site. The time in which comments to the Proposed Plan could be submitted was from August 8, 2008 through September 6, 2008. During the public comment period, EPA held a public meeting on August 19, 2008 to discuss the Proposed Plan and received comments on it. In addition, EPA received written comments on the Proposed Plan during the public comment period. This document summarizes the comments submitted by the public. EPA's response to each comment follows the comment.

PUBLIC COMMENTS AND EPA'S RESPONSES

Comment 1: As a homeowner near the Site, what can the EPA, NYSDEC, or NYSDOH do to help homeowners clean up their homes?

Response 1: Based on a careful review of all data and groundwater flow paths, it has been determined that the Computer Circuits Site does not impact any of the homes in this neighborhood, or for that matter, any other residential neighborhood.

Comment 2: Has the agency already made the decision as to which remedial alternative is going to be selected?

Response 2: EPA identified its preferred remedy, which was determined after careful deliberation of the available information and data, in the Proposed Plan which was made available to the public on August 8, 2008. A final decision will be made after careful consideration of all public comments. That being said, some actions have already been taken to remediate contamination at the Site.

As noted in the Proposed Plan, while EPA identifies a preferred alternative in the Proposed Plan, a remedy will not be selected until EPA evaluates all comments received on the document. The remedy selection is documented in a Record of Decision (ROD). EPA has two primary response authorities under CERCLA which are covered under two related programs - namely, the removal program and the remedial program. The remedial program addresses the long-term cleanup of NPL (National Priorities List) sites, while the removal program addresses short-term or acute threats that require a more immediate or time-critical response. While "removal actions" are often implemented at sites that are not on the NPL, EPA frequently uses its removal authorities to complement its remedial programs at NPL sites by addressing the more immediate threats. The primary component of the preferred remedy cited in the Proposed Plan is the continuation of the operation of soil vapor extraction (SVE) systems constructed under the removal program - namely the two SVE systems, one on the north side of the building and one on the south side of the building, to remove contaminants from contaminated soil and from below the slab of the building and also to prevent contaminants from migrating into the indoor air of the building. The construction of these systems through the removal program was warranted to protect occupants of the building from being exposed to contaminated indoor air. The remedy also includes other actions in addition to the ongoing operation of the SVE systems; these are monitoring of indoor air and sub-slab soil gas, and groundwater monitoring.

Comment 3: There should not be any tenants in the building. It is not safe enough for them to be in there.

Response 3: Indoor air monitoring has reflected the presence of trichloroethylene (TCE) slightly elevated above the guideline established by the New York State Department of Health (NYSDOH). NYSDOH has established this guideline or limit (5ug/m3) based on a thorough analysis of risks. The limit is set below exposure levels associated with TCE health effects. Furthermore, the NYSDOH guideline is based on chronic exposure, meaning regular exposure to TCE over long periods of time. Short-term exposures to TCE at concentrations detected in the building are not considered to have any deleterious affects or adverse impacts to human health. However, as it was determined that TCE was present above the NYSDOH guideline, EPA moved quickly under its removal authority to install an additional SVE system to mitigate further potential exposures.

Comment 4: According to the Proposed Plan, cleanup began in December 2005. I can't understand why, according to details in the Proposed Plan, six years went by and nothing was done?

Response 4: The statement that nothing has been done at the Site is not accurate. In fact, a large amount of work has been performed at the Site already. The Site was placed on the NPL on May 10, 1999. An RI began in 2000. The activities associated with the RI included the delineation of the nature and extent of site-related contamination, and evaluation of the potential human health and ecological risks based on the occurrence and distribution of site-related contaminants detected in the Study Area. As data was collected and analyzed, the investigation became more and more focused. Indoor air monitoring was performed in the building in 2004 which reflected the presence of volatile organic compounds in the indoor air at levels of concern. To remedy this, EPA and the owner of the Site property entered into an agreement whereby the property owner would install and operate a soil vapor extraction system on the north side of the building. The system was installed and began operating in December 2005. At that time, the building was empty (having no occupants). Though tenants do now occupy portions of the building, some of the building remains empty. In the autumn of 2007, EPA and NYSDEC shared several concerns about the potential for vapor intrusion into the building on the Site property and decided to perform additional studies of the indoor air and the sub-slab soil gas. In April, May and June of 2008, EPA performed this additional work. Assessment of the 2008 data indicated the need for an additional system to remediate contamination near the south side of the building. The additional SVE system was installed and began operation in September 2008.

Comment 5: *How far does this area of contamination go?*

Response 5: The contamination is mainly localized in two areas within the Site property boundary. More specifically, there are two areas on the Site property where residual contamination still exists - namely, a former industrial cesspool located on the north side of the building and a former industrial cesspool located on the south side of the building. This residual contamination is a source of vapor intrusion under the slab of the building and into the indoor air of the building. SVE systems have been installed and are operating which will prevent any further migration of vapors into the building.

In general, the 2008 groundwater monitoring data shows that in the instances where TCE or PCE exceeded MCLs, the concentrations were approaching the MCL value. The wells located within the property boundary and the wells downgradient of the property boundary now have concentrations that are very similar to the relatively low levels found in upgradient wells. A thorough analysis of the 2007 and 2008 groundwater data supports the conclusion that there is currently no discernable groundwater contaminant plume associated with the Site. As such, the site-related contamination is considered to be limited to the Site property.

Comment 6: What concentration of TCE in indoor air would be considered fatal?

Response 6: The National Institute of Health and Human Services (NIOSH) develops and periodically revises the NIOSH Pocket Guide to Chemical Hazards. The Pocket Guide is designed to provide chemical-specific data to supplement general industrial hygiene knowledge for a large number of chemicals. The NIOSH Pocket Guide establishes a concentration for many chemicals called the IDLH, which stands for "immediately dangerous to life or health concentrations." *The NIOSH Pocket Guide* (which can also be found at the website www.cdc.gov/niosh) establishes an IDLH for TCE of 1000 ppm (parts per million), which is equivalent to 5,371,627 $\mu g/m^3$ (micrograms per cubic meter).

Comment 7: As an occupant in the building on the Site property (at 145 Marcus Blvd.), how is the presence of the contaminants in the indoor air affecting me?

Response 7: The SVE systems installed to address vapor intrusion in the building are effective at reducing exposure to contaminants in the indoor air. Indoor air monitoring has detected TCE at levels slightly above the guideline of 5 $\mu g/m^3$ established by NYSDOH. The NYSDOH guideline is based on chronic exposure, meaning regular exposure to TCE over long periods of time. Short-term exposures to TCE at concentrations detected in the building are not considered to have any deleterious affects or adverse impacts.

Comment 8: When did the agency become aware that the occupants at 145 Marcus Blvd. were breathing contaminated indoor air?

Response 8: Sampling conducted from 2004 through 2006 did not show elevated levels in any of the areas occupied at that time. EPA performed indoor air monitoring on May 12, 2008. The samples were then shipped to a laboratory for analysis. Following the analysis, the data was then reviewed for Quality Assurance and Quality Compliance (QA/QC). EPA received the QA/QC data at the end of June. After our internal review, we shared the data with the representatives of the building owner during the first week of July. On August 8, 2008, the Proposed Plan was made available for review by the public at the information repositories for the Site which included information about the indoor air contamination in the building.

Comment 9: Do the contaminants go through the building's air circulating system?

Response 9: The building's air circulation system ensures that a certain amount of fresh (e.g., outdoor) air is mingled with the indoor air and that air is circulated throughout the building. Though contaminants would be circulated, the result would be to dilute the contaminants with cleaner air. Indoor air monitoring performed by EPA in May 2008 reflected that, outside of one localized area along the southern portion of the building, TCE was either detected at very low concentrations or was not detected at all in the rest of the building.

Comment 10: Is there any kind of testing that individuals can do to make sure that the contaminants are not causing adverse impacts on their health?

Response 10: While there are tests that can be performed to determine the level of TCE in the blood, there are no known adverse affects from exposure to TCE at the levels detected in the indoor air. The levels of TCE that were found in the indoor air are only slightly elevated above NYSDOH's standard, which, itself, has several safety factors and is based on chronic (long-term) exposure. Furthermore, now that the SVE systems are operating, it is expected that levels of TCE in the indoor air would be reduced to levels significantly below the NYSDOH guideline.

Comment 11: Is there any possibility that the contamination associated with the Site has spread outside the property boundary?

Response 11: Computer Circuits operated a circuit board manufacturing facility at the Site and discharged industrial wastewaters into industrial cesspools on the Site property. Industrial cesspools were located on the south side of the building on the Site property; a single industrial cesspool was located on the north side of that same building. Some contamination (including TCE) did percolate through the soil column and enter groundwater beneath the Site. Some contaminated groundwater did migrate in the direction of groundwater flow. A thorough analysis of recent groundwater data (e.g., from 2006, 2007 and 2008) supports the conclusion that there is currently no discernable groundwater contaminant plume associated with the Site.

Comment 12: Why wasn't a soil vapor extraction unit installed on the south side of the building at the same time that one was installed on the north side of the building?

Response 12: Indoor air monitoring performed in the building in 2004 reflected the presence of volatile organic compounds (at levels of concern) in the indoor air in the northern portion of the building. The 2004 indoor air monitoring data did not reflect the presence of volatile organic compounds at levels of concern in the southern portion of the building. As such, a removal action was only deemed appropriate on the north side of the building. An SVE system was installed on the north side of the building and began operating in December 2005.

In the autumn of 2007, EPA and NYSDEC shared several concerns about the potential for vapor intrusion into the building on the Site property and decided to perform additional studies of the indoor air and the sub-slab soil gas. In April and May of 2008, EPA performed this additional work. Assessment of the 2008 data indicated the need for an additional system to address contamination near the south side of the building. The additional SVE system was installed and began operation in September 2008.

Comment 13: Was any air monitoring performed during October or November, as that is reportedly the optimum time for testing to be done?

Response 13: EPA performed indoor air monitoring in the building in April, May and September of 2008. EPA did not perform indoor air monitoring during October or November (of 2007). New York State's guidance for conducting vapor intrusion testing recommends that testing be conducted during the winter heating season, between December and April. The reason for this is that heating systems will be on and windows closed, resulting in conditions that will most likely result in elevated indoor levels of volatile organic compounds when they are present in the sub-slab environment. However, these criteria are not always relevant to commercial properties because commercial properties typically involve the use of commercial-type

HVAC (heating, ventilation, and air conditioning) systems that typically provide a relatively constant positive flow of heated, or cooled air to each room in the building, creating a relatively consistent pressure differential between the sub-slab and indoor air environments throughout the year. Also, as compared to a residential home, the temperature of indoor air in a commercial building using an HVAC system is relatively constant throughout the year. This means that the season in which soil vapor intrusion sampling is conducted in commercial buildings has less potential effect on the result when compared to sampling done in residential settings.

Comment 14: The Proposed Remedial Action Plan indicates that the current levels of TCE in groundwater are relatively low (e.g., non-detect to 30 ppb). How high were levels a few years ago?

Response 14: During the Remedial Investigation, groundwater sampling was performed in 2001, 2002, 2006, 2007 and 2008. Groundwater sampling data collected during the RI in 2002 revealed elevated concentrations of TCE and PCE as high as 280 parts per billion (ppb) and 370 ppb, respectively.

Comment 15: Are you moving groundwater monitoring wells or installing new ones to track the groundwater contaminant plume?

Response 15: EPA had an additional six monitoring wells installed in the Site area in 2008, two of which were upgradient of the property boundary and four of which were downgradient from the property boundary. These new wells, along with the previously existing wells associated with the Site, were sampled between May 27, 2008 and June 4, 2008. This latest round of groundwater monitoring found the highest concentrations of TCE and PCE to be 24 ppb and 31 ppb, respectively. Significantly, the well that yielded the 24 ppb of TCE was non-detect in the previous sampling event (June 2007). Similarly, the well that yielded the 31 ppb of PCE was also non-detect for PCE in the previous sampling event. Data also indicated that upgradient wells had similarly low levels of PCE and TCE contamination as the on-Site wells. This disparity between the 2007 and 2008 groundwater data supports the conclusion that there is currently no discernable groundwater contaminant plume associated with the Site.

Comment 16: Is the contaminated air dispersed through the building through the air ventilation system?

Response 16: The building's air circulation system ensures that a certain amount of fresh (e.g., outdoor) air is mingled with the indoor air and that air is circulated throughout the building. As such, the air circulation system would disperse both contaminated air and uncontaminated air. Though contaminants would be circulated, the result would be to dilute the contaminants with cleaner air. Indoor air monitoring performed by EPA in May 2008 reflected that, outside of one localized area along the southern portion of the building, TCE was either detected at very low concentrations or was not detected at all in the rest of the building.

Comment 17: How does the agency know when to go to a building to see if there are hazardous substances or if it is being contaminated?

Response 17: There are numerous environmental laws that the EPA regulates including RCRA (Resource Conservation and Recovery Act), CAA (Clean Air Act), and CWA (Clean Water Act). The states (including NY State) have similar laws. These laws are enforced. However, the states and the federal government do have limited resources and cannot necessarily inspect every facility in the country. Each company, however, is responsible for complying with these laws.

Comment 18: The August 8, 2008 notice in the local newspaper (*Newsday*) made it sound like this was one of the most contaminated sites in the country.

Response 18: While the Computer Circuits Site is on the NPL, that designation does not necessarily indicate that it is one of the worst sites in the country. More than 1400 sites have been designated as NPL sites. The NPL is a list of hazardous waste sites in the United States eligible for long-term remedial action financed under the federal Superfund program. NPL sites have the potential to be among the more contaminated sites in the country.

EPA regulations outline a formal process for assessing hazardous waste sites and placing them on the NPL. The NPL is largely intended to guide the EPA in determining which sites warrant further investigation. Sites are listed on the NPL upon completion of a Hazard Ranking System (HRS) screening. EPA consults with states before placing sites on the NPL; in many instances, sites that might qualify for listing on the NPL are not listed because they are being addressed under a state cleanup program.

Comment 19: *Have the conditions at the Site improved over time?*

Response 19: Yes, the conditions have improved at the Site over time. As there are no longer any significant sources of groundwater contamination at the Site, contaminant levels in groundwater have significantly decreased over time. Currently, contaminants in groundwater are approaching the MCLs and the low-level contamination is at concentrations that are similar to those found upgradient of the Site. Furthermore, SVE systems were installed and are operating in the two areas where residual contamination exists. These systems are remediating residual contamination and mitigating vapor intrusion into the building.

Comment 20: How often will indoor air be monitored in the building?

Response 20: A Site Management Plan will be prepared which will detail the frequency of monitoring indoor air in the building on the Site property.

Comment 21: What are the current levels of contaminants in the inside air?

Response 21: Air monitoring activities were conducted by EPA in May 2008. Several summa canisters were placed in various locations within the building to determine levels of VOCs (volatile organic compounds) in the indoor air. Only two VOCs were detected during these activities - namely, TCE and trans-1,2-dichloroethene. The highest concentrations of TCE and trans-1,2-dichloroethene were 6.07 $\mu g/m^3$ and 0.381 $\mu g/m^3$, respectively.

Comment 22: What are the safe levels for those substances for long-term exposure?

Response 22: NYSDOH has established a guideline of 5 $\mu g/m^3$ for TCE. This guideline incorporates a number of conservative safety factors in its calculation. Furthermore, the NYSDOH guideline is based on chronic exposure, meaning regular exposure to TCE over long periods of time. The concentration of trans-1,2-dichloroethene in indoor air was substantially below levels expected to present an increased risk of cancer or adverse health effects.

Comment 23: Can an indoor air quality monitoring device that displays TCE levels be installed inside of the building?

Response 23: There may be some products on the market that display TCE levels, though we are not aware of any real-time monitoring equipment which is capable of detecting levels near as low as those found in the building or the NYSDOH guideline of 5 $\mu g/m^3$.

Comment 24: California has established vapor limits of 10 $\mu g/m^3$, twice that of New York State. Is there a weblink or series of links or reports (etc.) that you could point us to that clearly shows the limits imposed by all 50 states for comparison?

Response 24: Many states have established limits for concentrations of certain contaminants in indoor air. California has established an indoor air level for TCE of 10 $\mu g/m^3$ and New York State uses a value of 5 $\mu g/m^3$. Each state has its own website, many of which post indoor air limits for various contaminants. New York State uses guidance levels established by the New York State Department of Health. The NYSDOH webpage dealing with TCE in indoor air is www.health.state.ny.us/environmental/investigations/soil_gas/svi_guidance/fs_tce.htm.

Comment 25: In the document titled "Computer Circuits Superfund Site Hauppauge, Suffolk County, NY" dated August 2008, on page 7, 2nd column, Paragraph titled "Indoor Air," there is a figure given of 5.6 x 10^{-3} without giving units. I'm sure you can recognize the vagueness of such a poor practice, and the uneasiness this vagueness creates. Similarly, the report goes on to say this is above the EPA acceptable range, but doesn't indicate what the acceptable range is.

Response 25: The document referred to in this comment is the Proposed Plan. The Proposed Plan was made available for review at the information repositories for the Site. The Proposed Plan includes a section on the Risk Assessment. The purpose of the risk assessment is to identify potential cancer risks and noncancer health hazards at the Site. Exposures to contaminants are evaluated based on the potential risk of developing cancer and the potential for noncancer health hazards. The value referred to in the comment (5.6×10^{-3}) pertains to cancer risks. The value is correctly represented without units. The risk characterization identifies contamination with concentrations which exceed acceptable levels, defined by the National Contingency Plan (NCP) as an excess lifetime cancer risk greater than 1×10^{-6} - 1×10^{-4} or a Hazard Index greater than 1.0. The likelihood of an individual developing cancer is expressed as a probability. For example, a 1×10^{-4} cancer risk means a "one-in-ten thousand excess cancer risk," which means one additional cancer may be seen in a population of 10,000 people as a result of exposure to the site contaminants. Similarly, the value of 5.6×10^{-3} represents a "5.6 in one thousand excess cancer risk."

Comment 26: Any time that the blowers are turned off (to the SVE systems), the inhabitants of the building (not just the owner) should be informed in advance?

Response 26: A Site Management Plan will be developed which will include such notification requirements.

Comment 27: Future indoor air measurements should not only duplicate the positions of past measurements for correlation, but also include new locations where here-to-fore, it is possible to have a hot-spot that has gone undetected. This goes for the entire building, even for suites where only low levels have been detected so far.

Response 27: The indoor air monitoring program, that will be part of the Site Management Plan, will require monitoring at a certain frequency and cover a representative number of locations.

Comment 28: Subsequent indoor air testing should be performed at defined intervals. I would think no longer than 3 months between measurements would be appropriate for at least the first year of SVE operation.

Response 28: In the near term, air is expected to be monitored at least as frequently as every six months; however, the actual frequency won't be established until the indoor air monitoring plan is completed. Over time, the monitoring program may also be periodically modified if sample results indicate more or less frequent sampling is appropriate.

Comment 29: I noticed mention of methylene risk in the Indoor Air. I have not yet seen any actual measurement levels for methylene, or acceptable levels set by either the EPA or NYSDEC, or any mention of whether the SVE system will effectively mitigate methylene.

Response 29: Methylene chloride was detected in air samples collected on July 24, 2002 from four locations (three inside the building and one outside and adjacent to the building). Results were compared to the EPA Region 9 preliminary screening values (EPA Region 9 Preliminary Remediation Goals) and the New York State Department of Health (NYSDOH) Soil Vapor Intrusion Guidance to assess the ambient indoor air quality. Methylene chloride was above the EPA screening value. The SVE system is effective in mitigating vapor intrusion for most volatile organic compounds, including methylene chloride. Methylene chloride has not been detected in the indoor air of the building since the SVE system has been in operation.

Comment 30: The number of groundwater monitoring wells and the frequency of the sampling, as stated in the Proposed Remedial Action Plan, is excessive

Response 30: The groundwater monitoring plan will include certain flexibilities to allow for changes based on an evaluation of groundwater data as it is collected.

Comment 31: The capital cost of Alternative 2, as stated in the Proposed Remedial Action Plan, is $0.

Response 31: The Record of Decision (ROD) presents the Selected Remedy for the Computer Circuits Superfund Site. The remedy involves remediation of residual contamination in soil and preventing vapor intrusion into the building by the operation of two separate soil vapor extraction (SVE) systems. Each SVE system is operating in a distinct source area - namely, former industrial cesspools, and is also mitigating vapor intrusion by extracting vapors collecting below the slab of the building on the site property. As both SVE systems were installed prior to the issuance of the ROD, the capital costs associated with these systems was not included in the cost data, either in the Proposed Plan or in the ROD.

Comment 32: The annual cost reported under Alternative 2 is substantially understated.

Response 32: The annual cost associated with Alternative 2 includes costs associated with the operation and maintenance of the two SVE systems, groundwater monitoring, indoor air monitoring, and sub-slab soil gas monitoring. The information in the cost estimate summary tables is based on the best available information regarding the anticipated scope of the remedial alternative. Changes in the cost elements are likely to occur as a result of new information and data collected during design and implementation of the remedial alternative. Depending on their magnitude, changes may be documented in the form of a memorandum in the Administrative Record file, an Explanation of Significant Difference, or a ROD amendment. This is an order-of-magnitude engineering cost estimate that is expected to be within +50% to -30% of the actual project cost. The annual cost may vary, depending on the monitoring requirements that will be required in the Site Management Plan.

Comment 33: An environmental easement or a restrictive covenant is not required.

Response 33: As noted in the Record of Decision, an environmental easement may be placed on the property.

Comment 34: The indoor air cleanup objective for TCE should be 5 $\mu g/m^3$.

Response 34: Indoor air monitoring has detected TCE at levels slightly elevated above the guideline established by NYSDOH (5 $\mu g/m^3$). This guideline is meant as an action level, not a cleanup objective. The SVE system (or a sub-slab vapor mitigation system) will remain in place and operational until it is no longer needed to address current or potential exposures related to soil vapor intrusion. This determination will be based on, but not limited to, whether the subsurface vapors are affecting indoor air quality at levels of concern when the active mitigation systems are turned off. This determination will be made upon an evaluation of appropriate monitoring results. The system will not be turned off until indoor air levels are significantly less than the NYSDOH guideline without the system operating.

Comment 35: The soil cleanup objective should reflect a commercial use.

Response 35: The soil cleanup objectives are based on New York State's NYSDEC Subpart 375: Remedial Program Soil Cleanup Objectives Table 375-6.8(a). This table is utilized for all NPL or State Superfund Sites.

Comment 36: From time to time, the SVE system on the north side of the building has stopped operating, without notice to any of the building occupants. The installation of some type of indicator in the utility room in the building would be helpful to make sure that the units are in operation at all times.

Response 36: The site management plan will establish an appropriate notification system. An operation and maintenance plan will also be developed for the continued operation of the SVE systems. This plan will address any warning signals that may be necessary to notify the system operator of system malfunctions.

quality at levels of concern when the active mitigation systems are turned off. This determination will be made upon an evaluation of appropriate monitoring results. The system will not be turned off until indoor air levels are significantly less than the NYSDOH guideline without the system operating.

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RESPONSIVENESS SUMMARY

APPENDIX V-a

AUGUST 2008 PROPOSED PLAN

Superfund Proposed Plan

Computer Circuits Superfund Site

Hauppauge, Suffolk County, New York

EPA

August 2008

PURPOSE OF THE PROPOSED PLAN

This Proposed Plan identifies the preferred remedy for the Computer Circuits Superfund site (site), and provides the rationale for this preference. This Proposed Plan was developed by the U.S. Environmental Protection Agency (EPA) in consultation with the New York State Department of Environmental Conservation (NYSDEC). The preferred remedy addresses human and environmental risks associated with contaminants identified in soils, indoor air, and groundwater at the site.

EPA is issuing this Proposed Plan as part of its public participation responsibilities under Section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended (commonly known as the federal "Superfund" law), and Sections 300.430(f) and 300.435(c) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP).

The nature and extent of the contamination at the site and the alternatives summarized in this Proposed Plan are further described in the February 9, 2007 Remedial Investigation (RI) Report and the June 18, 2007 Feasibility Study (FS) Report, respectively. Additional documents, including groundwater monitoring reports, indoor air and sub-slab sampling reports, and a SVE evaluation report further describe conditions at the site. EPA and NYSDEC encourage the public to review these documents to gain a more comprehensive understanding of the site and the Superfund activities that have been conducted at the site.

This Proposed Plan is being provided to inform the public of EPA's preferred remedy and to solicit public comments pertaining to the remedial alternatives evaluated, including the preferred alternative.

EPA's preferred remedy consists of the following components:

- Operation of soil vacuum extraction (SVE) systems to remediate contaminated soils in two distinct source areas, reduce or eliminate the migration of contaminants from these source areas to groundwater, and mitigate vapor intrusion into the building;

- The implementation of a long-term groundwater monitoring program to monitor groundwater contamination at the site to ensure that the concentrations of volatile organic chemicals continue to

Mark Your Calendar

August 8, 2008 – September 6, 2008: Public Comment Period on the Proposed Plan.

August 19, 2008 at 7:00 p.m.: The EPA will hold a Public Meeting to explain the Proposed Plan. The meeting will be held at the Smithtown Public Library, Smithtown, New York.

For more information, see the Administrative Record file (which will include the Proposed Plan and supporting documents), which is available at the following locations:

Smithtown Library
One North Country Road
Smithtown, NY 11787
Tel: *631-265-2072*
Hours: Monday - Friday 9:00am – 6:00pm

and

USEPA-Region II
Superfund Records Center
290 Broadway, 18th Floor
New York, NY 10007-1866
(212) 637-4308
Hours: Monday-Friday, 9:00 a.m. - 5:00 p.m.

Written comments on this Proposed Plan should be addressed to:

Mark Dannenberg
Remedial Project Manager
Eastern New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York 10007-1866
Telephone: (212) 637-4251
Telefax: (212) 637-3966
Email address: Dannenberg.mark@epa.gov

The EPA has a web page for the Computer Circuits Site at www.epa.gov/region2/superfund/npl/computercircuits.

decrease, and that the groundwater quality is being restored; and

- Ongoing indoor air monitoring in the building at 145 Marcus Blvd, Hauppauge, New York to ensure that concentrations of volatile organic vapors in indoor air remain at levels that are safe to occupants.

The remedy described in this Proposed Plan is the preferred remedy for the site. Modifications to the preferred remedy or a change from the preferred remedy to another remedy may be made if public comments or additional data indicate that such a change will result in a more appropriate remedial action. The final decision regarding the selected remedy will be made after EPA has taken into consideration all public comments. EPA is soliciting public comment on all of the alternatives considered in this Proposed Plan, including its preferred remedy.

COMMUNITY ROLE IN SELECTION PROCESS

EPA and NYSDEC rely on public input to ensure that the concerns of the community are considered in selecting an effective remedy for each Superfund site. To this end, this Proposed Plan, along with the supporting Remedial Investigation and Feasibility Study Reports, have been made available to the public for a public comment period which begins on August 8, 2008 and concludes on September 6, 2008.

A public meeting will be held during the public comment period at the Smithtown Borough Hall in Smithtown, New York on August 19, 2008 at 7:00 P.M. to elaborate on the reasons for the proposed remedy and to receive public comments.

Comments received at the public meeting, as well as written comments, will be documented in the Responsiveness Summary Section of the Record of Decision (ROD), the document which formalizes the selection of the remedy.

SCOPE AND ROLE OF ACTION

This Proposed Plan presents remedy alternatives, including EPA's proposed remedy to remediate the site. The objectives of the preferred remedy are to remediate contaminated soil, mitigate vapor intrusion into the building on the site property, reduce and minimize the migration of contaminants from the soil to the groundwater, restore groundwater quality, and minimize any potential future adverse health and environmental impacts.

SITE BACKGROUND

Site Description

The former Computer Circuits facility (the building) property is located within an industrial park in Hauppauge, New York **(see Figure 1)**. The property is about 2 acres in size and is occupied by a 21,600 square foot, one-story building located in the center of the site. It is bordered by Marcus Boulevard to the west and other industrial/commercial properties to the north, south, and east. A residential area is located to the north of the site with the nearest residence approximately one-half mile from the former facility property.

Based on the 2000 Census, it is estimated that 5,769 people live within one mile of the former facility. All residences in the vicinity of the former facility use public water for the potable water supply.

Site Geology/Hydrogeology

The topography of the site is generally flat with a gentle slope to the west towards Marcus Boulevard. The site is underlain by glacial deposits which consist of heterogeneous sand, gravel, and boulders with occasional silt and clay lenses. Glacial deposits are approximately 150 feet in thickness and are underlain by more than 1000 feet of Cretaceous coastal plain sediments.

Long Island is made up of a series of interconnected sand and gravel aquifers. All of Long Island's water supply comes from underground water held in the aquifers. Three major aquifers make up the Long Island aquifer system. In sequence from shallowest to deepest, the three major Long Island aquifers are the Upper Glacial, the Magothy, and the Lloyd Aquifers. The saturated, highly permeable glacial sediments extend down through the underlying Magothy Formation. Depth to groundwater in the underlying glacial aquifer is approximately 105 feet below the ground surface at the site.

Groundwater flow in the area has a minor downward component, which transports groundwater from the glacial deposits to the Magothy formation. The site also has a horizontal component for groundwater flow. As it is situated north of the regional groundwater divide, groundwater in the vicinity of the site generally flows in an east-northeast direction toward the headwaters of the Nissequogue River.

There are no surface water bodies near the site. Artificial recharge basins are located throughout the industrial park to accept storm water runoff from roadside catch basins. The water table surface does not intersect with the base of the recharge basins in this area.

Site History

The former Computer Circuits facility property was owned by MCS Realty from 1969 to 1991. Since 1991, the property has been owned by 145 Marcus Boulevard, Inc. The Computer Circuits Corporation was the first tenant and occupied the entire property from 1969 to 1977. Since that time, the site property has been leased to various companies. The building is currently being leased by Castle Financial Advisors.

Computer Circuits was a manufacturer of printed circuit boards for both military and commercial applications.

Waste liquids from the circuit board manufacturing process were discharged to five industrial leaching pools located beyond the southeast corner of the building. These waste liquids contained metals, acids, and solvents. Photographic chemicals and trichloroethylene (TCE), which were used in association with the dark room and silk screening room located in the northern part of the building, were discharged to a single industrial leaching pool adjacent to the north side of the building.

On numerous occasions between 1976 and 1977, the Suffolk County Department of Environmental Control (SCDEC) collected samples from the industrial pools and found that the discharge from the Computer Circuits facility was in violation of its State Pollutant Discharge Elimination System (SPDES) permit. In 1976, in response to requests by the SCDEC, Computer Circuits hired a contractor who excavated and subsequently backfilled the five industrial pools located near the southeast corner of the building. Two new leaching pools were installed in the same general area in the latter half of 1976. The two new pools were used until the Computer Circuits Corporation ceased its operations in 1977.

In 1977, the SCDEC determined that a different industrial cesspool located on the north side of the building was completely clogged. The discharge pipe to this industrial pool was capped in 1977, and the discharge ceased. All operations ceased in 1977 in response to an injunction filed by NYSDEC, and Computer Circuits Corporation subsequently vacated the premises.

NYSDEC placed the site on the New York Registry of Inactive Hazardous Waste Disposal Sites in December 1986, under a Class 2 classification, meaning that the site is listed as a significant threat to the public health or the environment and that an action will be required.

In 1989, soil and groundwater were investigated at the site as required by an Order on Consent between the NYSDEC and the property owner. Additional groundwater monitoring occurred in February 1991 and February 1994. In 1995, five additional soil borings were drilled (one at the main sanitary cesspool west of the building, one at the industrial leaching pool located on the north side of the building, and three in the vicinity of the industrial pools off the southeast corner of the building) and soil samples were collected. Volatile organic compounds (VOCs) were not detected in the soil samples above NYSDEC guidance values. However, metals including lead, silver, copper, nickel, and zinc were detected in the soil samples above NYSDEC guidance values.

Another round of groundwater sampling was also performed in 1995 from the three existing groundwater monitoring wells located along the property boundary, one on the southwest corner of the property, one near the northeast corner, and one north of the building. The data collected from this groundwater sampling indicated that certain VOCs (including TCE, 1,2-dichloroethene, 1,1,1-trichlorethane, and tetrachloroethene) were present above NYSDEC standards and MCLs.

In 1996, an additional three groundwater monitoring wells were installed at the site, one adjacent to the southwest corner of the building (to supplement the three that were already there), one adjacent to the southeast corner of the building, and one along the southern edge of the site property. Groundwater samples were subsequently collected from the new monitoring wells as well as two of the three original monitoring wells; the data collected indicated the presence of one or more of the same VOCs (e.g., TCE, 1,2-dichloroethene, 1,1,1-trichlorethane, and tetrachloroethene) above NYSDEC standards and MCLs in each of these wells.

On May 10, 1999, the EPA placed the site on CERCLA's National Priorities List (NPL) of sites. EPA took over as the lead regulatory agency overseeing the implementation of an RI/FS.

SUMMARY OF REMEDIAL INVESTIGATION ACTIVITIES

Under an Administrative Order on Consent with EPA, signed on September 29, 2000, 145 Marcus Blvd., Inc., the facility property owner, retained a contractor to conduct a RI/FS of the site. The RI included performing a soil and groundwater investigation at the site to determine the type and extent of contamination at the site. Major field activities performed during the RI included: a geophysical survey, on-site soil borings, soil sampling, monitoring well drilling and installation, groundwater monitoring, and indoor air monitoring. The results of the RI are summarized below.

The first phase of the field work portion of the RI was conducted by PW Grosser Consulting, as a consultant to 145 Marcus Blvd, Inc., from December 17, 2001 to July 24, 2002. Ten soil borings were drilled at various locations throughout the site, including near the industrial leaching pools. On January 23, 2002, sediments within the industrial pool on the north side of the building were removed prior to advancing a deep soil boring to prevent introducing contaminated materials to the underlying aquifer. These sediments were removed by a "Guzzler" vacuum truck, which utilizes a strong vacuum to extract the sediments and water through a 5 inch hose, and they were placed in a container for disposal. Also, as part of the RI, five additional groundwater monitoring wells were installed and sampled.

A draft RI Report was submitted on January 6, 2003. The RI Report indicated the presence of TCE in soil samples (collected from locations adjacent to the building and beneath the concrete slab floor of the building) and in air samples (collected from inside of the building). Based on these findings, it was determined that it was necessary to reduce TCE concentrations in on-site soils and within the building. A second Administrative Order on Consent between 145 Marcus Blvd, Inc. and the EPA was executed on September 28, 2004 to conduct this removal action. The removal involves the operation of a SVE system which remediates contaminated soils in a contaminant-source area on the north side of the building (a former industrial cesspool) and mitigates vapor intrusion into the building. The system uses two extraction wells to draw volatile organic contaminants from the former industrial cesspool and from beneath the concrete slab foundation of the building.

EPA determined that additional work was necessary to complete the RI Report and to determine the nature and extent of the groundwater contaminant associated with former facility. Additional groundwater monitoring was conducted in December 2006 and June 2007. The RI Report was revised, and a Final RI Report was submitted to EPA on February 9, 2007.

A draft FS Report, dated February 6, 2007, was submitted to EPA. Based on EPA's comments, the draft FS Report was revised and resubmitted to EPA on June 19, 2007. Based on additional comments received, additional activities were deemed necessary to enable EPA to propose the preferred remedy. These activities included the installation of additional groundwater monitoring wells and the collection of additional groundwater and indoor air samples.

In the Spring of 2008, EPA performed a full evaluation of the existing SVE system. This involved the collection of additional soil-gas data to determine if volatile organic vapors are present in soils and/or beneath the concrete slab of the building and to assess the effectiveness of the SVE system. As part of the evaluation, EPA considered ways to optimize the operation of the SVE system to maximize contaminant removal from site soils and beneath the building, thereby decreasing the amount of time required to effectively remediate contamination at the site.

EPA had six (6) additional monitoring wells installed in April and May, 2008 to better assess the nature and extent of the groundwater contamination. The six new monitoring wells were installed in three pairs where each pair had one well just below the water table (e.g., 120 feet below ground surface) and the other well set deeper in the aquifer (e.g., 230 feet below ground surface). One pair was installed upgradient to the former facility property and the other two pairs were strategically installed further downgradient than any of the previously existing monitoring wells associated with the site. A comprehensive round of groundwater monitoring, including the six new monitoring wells and the previously existing monitoring wells associated with the site, was conducted from May 27, 2008 through June 4, 2008.

Soil Monitoring Activities

145 Marcus Blvd, Inc. performed the RI in several phases. Soil sampling activities were conducted in 2001. The soil sampling activities were primarily focused in the areas where contaminant sources existed, namely, the industrial cesspools used for wastewater from operations at the Computer Circuits facility. Cesspools were located off of the southeastern corner of the building and another cesspool was located on the north side of the building. Analyses of samples were conducted for inorganic (e.g., metals) and organic contaminants. Compounds detected above preliminary screening values (namely, the EPA Region 9 Preliminary Remediation Goals) were considered contaminants of potential concern (COPCs) for the site. The following compounds were selected as COPCs for subsurface soils: TCE, benzo(a)pyrene, and nickel. In addition, the NYSDEC Recommended Soil Cleanup Objectives (RSCO) were exceeded for copper, silver, and zinc, so these metals were also retained as COPCs.

During the soil sampling phase of the RI, 48 shallow and 4 deep soil borings were advanced at the site. Results from the shallow borings revealed concentrations of TCE above screening values in the vicinity of the industrial leaching pool on the north side of the building, and beneath the concrete slab floor in the former silk screening room. TCE was detected in six shallow borings in excess of the EPA soil screening value of 60 micrograms per kilogram (µg/kg). The highest reported VOC concentration (namely, for TCE) in a shallow soil boring was 12,000 µg/kg, which was found in the top 2 feet below the concrete slab in the northern portion of the building. The RSCO value for TCE is 700 µg/kg. In addition, the NYSDEC RSCO value for TCE was exceeded in one of the four deep soil borings (found at 22 feet below ground surface (bgs) in the former industrial leaching pool on the north side of the building) at a concentration of 55,000 µg/kg. The EPA soil screening value for TCE (60 µg/kg) was exceeded in two of the four deep soil borings (in the former industrial leaching pool on the north side of the building and in the vicinity of the former leaching pools off of the southeast corner of the building). TCE was the only compound detected in excess of its NYSDEC RSCO value or the EPA soil screening level from the deep soil borings.

Soil sampling data also reflected that the NYSDEC RSCO was exceeded for metals, predominantly copper and nickel, in the area of the former industrial pools near the southeast side of the building. The NYSDEC RSCO was also exceeded for silver and zinc in the industrial pool on the north side of the building. The maximum level of copper detected was 12,300 mg/kg (the NYSDEC RSCO is 25 mg/kg or "site background"; EPA does not have a soil screening level for copper), which was found in the area of the former industrial pools near the southeast corner of the building at a depth of 15 feet bgs. The next highest value of copper detected was 312 mg/kg. Only one subsurface soil sample of nickel was detected above the preliminary screening value, and this sample was co-located with the maximum detected level of copper (in the area of the former industrial pools near the southeast corner of the building at a depth of 15 feet bgs). Silver was detected (at a level of 168 mg/kg) above the preliminary screening value from only one subsurface soil sample and this sample was collected at a depth of 20 feet bgs from the former industrial leaching pool on the north side of the building. The NYSDEC RSCO for silver is "site background". EPA does not have a preliminary screening value for zinc. However, the NYSDEC RSCO for zinc (which is 20 mg/kg or "site background") was exceeded in one sample collected at a depth of 20 feet bgs from the former industrial leaching pool on the north side of the building at a level of 90.9 mg/kg.

Groundwater Monitoring Activities

The groundwater monitoring program included sampling of groundwater from monitoring wells located at (and bordering) the former facility property and analysis of these samples for organic and inorganic compounds. These efforts were comprised of several separate field mobilizations conducted between 2001 and 2008. The investigations included:

- Installing additional permanent groundwater monitoring wells to act as fixed monitoring and/or compliance points within the aquifer. A total of 18 groundwater monitoring wells currently exist in the study area **(See Figure 2)**.
- Collecting a series of groundwater samples from the assembled monitoring network;
- Identifying the COPCs in groundwater;
- Characterizing the nature and extent of the groundwater contamination.

Evaluation of data on the depth to the water table has concluded that the groundwater generally flows in an east-northeast direction.

The following compounds were identified as COPCs for groundwater: tetrachloroethene (PCE), TCE, chromium VI, manganese, iron, and nickel. Chromium VI was not detected in groundwater monitoring wells on the former facility property, but it was detected at one monitoring well located upgradient of the former facility property and one monitoring well located downgradient of the former facility property. Furthermore, the RI Report documents that Computer Circuits did not use chromium in any of its operations. Manganese and iron are frequently found at elevated levels in groundwater on Long Island and are not considered site-related. Nickel was not detected above NYSDEC groundwater standards, and there is no federal standard for nickel. For these reasons, chromium VI, manganese, iron, and nickel were eliminated as COPCs at the site.

The primary contaminants identified in groundwater were TCE and PCE, both of which were detected at concentrations above both maximum contaminant levels (MCLs) and New York State Groundwater Standards in wells located within the property boundary and in wells located upgradient and downgradient of the property boundary. Sampling data collected during the remedial investigation in 2002, revealed high concentrations of TCE and PCE of 280 parts per billion (ppb) and 370 ppb, respectively. Earlier groundwater data, collected prior to the site being listed on the NPL, reflected even higher concentrations of TCE and PCE.

More recent groundwater sampling data indicate that the concentrations in the monitoring wells and downgradient of the site have continued to decrease significantly. Groundwater data collected between December 2006 and April 2007, indicate that the highest concentrations of TCE and PCE were 28 ppb and 36 ppb, respectively. Also, as mentioned earlier in the "Site History" section, EPA had an additional six monitoring wells installed in the site area, two of which were upgradient of the former facility property and four of which were downgradient from the former facility property. These new wells, along with the previously existing wells associated with the site, were sampled between May 27, 2008 and June 4, 2008. This latest round of groundwater monitoring indicates that the highest concentrations of TCE and PCE are 24 ppb and 31 ppb, respectively. Note that the well that yielded the 24 ppb of TCE was non-detect in the previous sampling event (June 2007); similarly, the well that yielded the 31 ppb of PCE was also non-detect for PCE in the previous sampling event. In general, the 2008 data shows that in the instances where TCE or PCE exceeded MCLs, the concentrations were approaching the MCL value.. In addition, with the exception of the two wells noted above, the wells located on the former facility property and the downgradient wells now have concentrations that are very similar to the low concentration levels found in upgradient wells.

MCLs and New York State Groundwater Standards are primary standards to protect public health by limiting the levels of contaminants in drinking water. As these standards were exceeded, TCE and PCE are retained as COPCs. However, PCE was reportedly never used at the site, and only trace amounts of PCE were found in site soils. As such, the PCE in groundwater is believed to come predominantly from a source (or sources) upgradient to the site.

All residences in the vicinity of the site rely on public water for their potable water supply. Two public water supply wells are located approximately three-quarters of a mile to the north of the site. One of the public water supply wells has been impacted by VOCs from a source other than the Computer Circuits site. As the direction of groundwater flow under the site is generally in an east-northeasterly direction, these public water supply wells are not directly downgradient of the site, nor within the zone of influence. Nonetheless, these public water supply wells are equipped with well-head treatment that removes VOCs (including TCE and PCE) from the water prior to distribution to the public. The public water supply is routinely monitored to ensure compliance with federal and state standards for drinking water.

Sediment Monitoring Activities

EPA performed sediment sampling from the catch-basin located in front of the former facility property on Marcus Boulevard. Samples were analyzed for VOCs and semi-volatile organic compounds (including Site-related COPCs). Site-related COPCs were not detected in these samples.

Indoor Air Monitoring Activities

Air samples were collected on July 24, 2002 from four locations (3 inside the building and one outside and adjacent to the building). Results were compared to EPA Region 9 preliminary screening values (EPA Region 9 Preliminary Remediation Goals), New York State Department of Health (NYSDOH) Soil Vapor Intrusion Guidance, and to NYSDOH "background levels," to assess the ambient indoor air quality. The VOCs detected above the screening values are: 1,1-

dichloroethene; 1,1,1-trichloroethane; 1,2-dichloroethane; acetone; chloromethane; methylene chloride; TCE; and vinyl chloride. Based on these findings, it was determined that a corrective measure was necessary. As noted above, EPA and 145 Marcus Blvd., Inc. signed Administrative Order on Consent on September 28, 2004 requiring that work be performed to remove VOC contamination from the soil and mitigate vapor intrusion into the building. As discussed earlier, this work involves the operation of a SVE system which remediates contaminated soils in a contaminant-source area on the north side of the building and mitigates vapor intrusion into the building.

Additional air monitoring activities were conducted by EPA in May, 2008. Several summa canisters were placed in various locations within the building to determine levels of VOCs in the indoor air. Only two VOCs were detected during these activities, namely, TCE and trans-1,2-dichloroethene. The highest concentrations of TCE and trans-1,2-dichloroethene were 6.07 $\mu g/m^3$ and 0.381 $\mu g/m^3$, respectively. As part of the site monitoring activities, EPA also collected soil-gas samples from around the perimeter of the building and beneath the foundational slab. These samples were analyzed for certain VOCs including TCE and PCE. The soil-gas samples reflected maximum TCE and PCE levels of 15,000 parts per billion by volume (ppbv) and 1,300 ppbv, respectively.

RISK SUMMARY

The purpose of the risk assessment is to identify potential cancer risks and noncancer health hazards at the site, assuming that no further remedial action is taken. A baseline human health risk assessment was performed to evaluate current and future cancer risks and noncancer health hazards based on the results of the RI. A screening-level ecological risk assessment was also conducted to assess the risk posed to ecological receptors as a result of site-related contamination.

Human Health Risk Assessment

As part of the RI/FS, a baseline human health risk assessment was conducted to estimate the risks and hazards associated with the current and future effects of contaminants on human health and the environment. A baseline human health risk assessment is an analysis of the potential adverse human health effects caused by hazardous-substance exposure in the absence of any actions to control or mitigate these conditions under current and future land uses.

A four-step human health risk assessment process was used for assessing site-related cancer risks and noncancer health hazards. The four-step process is comprised of: Hazard Identification of COPCs, Exposure Assessment, Toxicity Assessment, and Risk Characterization (see adjoining box "What is Risk and How Is it Calculated" for more details).

The baseline human health risk assessment began with selecting COPCs in the various media (i.e., soil, indoor air,

WHAT IS RISK AND HOW IS IT CALCULATED?

A Superfund baseline human health risk assessment is an analysis of the potential adverse health effects caused by hazardous substance releases from a site in the absence of any actions to control or mitigate these under current- and future-land uses. A four-step process is utilized for assessing site-related human health risks for reasonable maximum exposure scenarios.

Hazard Identification: In this step, the contaminants of concern at a site in various media (*i.e.*, soil, groundwater, surface water, and air) are identified based on such factors as toxicity, frequency of occurrence, and fate and transport of the contaminants in the environment, concentrations of the contaminants in specific media, mobility, persistence, and bioaccumulation.

Exposure Assessment: In this step, the different exposure pathways through which people might be exposed to the contaminants identified in the previous step are evaluated. Examples of exposure pathways include incidental ingestion of and dermal contact with contaminated soil. Factors relating to the exposure assessment include, but are not limited to, the concentrations that people might be exposed to and the potential frequency and duration of exposure. Using these factors, a "reasonable maximum exposure" scenario, which portrays the highest level of human exposure that could reasonably be expected to occur, is calculated.

Toxicity Assessment: In this step, the types of adverse health effects associated with chemical exposures and the relationship between magnitude of exposure and severity of adverse effects are determined. Potential health effects are chemical-specific and may include the risk of developing cancer over a lifetime or other noncancer health effects, such as changes in the normal functions of organs within the body (*e.g.*, changes in the effectiveness of the immune system). Some chemicals are capable of causing both cancer and noncancer health effects.

Risk Characterization: This step summarizes and combines outputs of the exposure and toxicity assessments to provide a quantitative assessment of site risks. Exposures are evaluated based on the potential risk of developing cancer and the potential for noncancer health hazards. The likelihood of an individual developing cancer is expressed as a probability. For example, a 10^{-4} cancer risk means a "one-in-ten-thousand excess cancer risk"; or one additional cancer may be seen in a population of 10,000 people as a result of exposure to site contaminants under the conditions explained in the Exposure Assessment. Current Superfund guidelines for acceptable exposures are an individual lifetime excess cancer risk in the range of 10^{-4} to 10^{-6} (corresponding to a one-in-ten-thousand to a one-in-a-million excess cancer risk) with 10^{-6} being the point of departure. For noncancer health effects, a "hazard index" (HI) is calculated. An HI represents the sum of the individual exposure levels compared to their corresponding reference doses. The key concept for a noncancer HI is that a "threshold level" (measured as an HI of less than 1) exists below which noncancer health effects are not expected to occur.

and groundwater) that could potentially cause adverse health effects in exposed populations. These populations included on-site commercial workers, construction

workers, and landscapers who may be exposed to contaminants in the soils by ingestion, inhalation, and dermal contact, and also residents who may be exposed through ingestion of groundwater used as a potable water supply or through inhalation as a result of volatilization of organic compounds during showering. In this assessment,exposure point concentrations were estimated using either the maximum detected concentration of a contaminant or the 95 percent upper confidence limit of the average concentration. Chronic daily intakes were calculated based on the reasonable maximum exposure (RME), which is the highest exposure reasonably anticipated to occur at the site. The RME is intended to estimate a conservative exposure scenario that is still within the range of possible exposures. Central tendency exposure (CTE) assumptions, which represent typical average exposures, were also developed. A complete summary of all exposure scenarios can be found in the baseline human health risk assessment.

Soil

The former facility property is currently in an industrial/commercial area, and the reasonably anticipated future land use will continue to be industrial/commercial. Exposure to surface and subsurface soil was evaluated for commercial workers, construction workers, and landscapers for the property based on a future anticipated commercial/industrial land-use scenario. The cancer risk for all of these populations that may have current or future exposure to the surface or subsurface soil was within the acceptable EPA risk range of 10^{-6} to 10^{-4}. Noncancer hazards were below EPA's acceptable hazard index of 1 for exposure to surface soil at the former facility property for all populations that were evaluated. Contaminated soil related to the site was not identified outside of the property boundaries; therefore, risks and hazards were not evaluated for soils outside of the Site property boundary.

Groundwater

The groundwater in the vicinity of the site, including the contaminated groundwater that is associated with the site, is designated as a drinking water source by the State. As stated earlier, all residents and businesses in this area use the public water supply as the source of potable (drinking) water. Furthermore, New York State law restricts, to a large degree, the future use of groundwater at the site, making it unlikely that a private drinking water well would ever be installed at or in the vicinity of the site. As such, it is unlikely that any person will be exposed to site-related, contaminated groundwater. However, as New York State has designated the aquifer as a source of potable water, potential exposure through ingestion, dermal contact, and inhalation of contaminated groundwater was evaluated as a future-use scenario for both commercial workers, and adult and child residents beyond the former facility property. The estimated cancer risks for such commercial workers at the former facility property (2.5×10^{-4}), adult residents (2.1×10^{-3}) and child residents (4.6×10^{-3}) were all above the EPA acceptable cancer risk range from hypothetical future exposure to TCE and PCE. In addition, the noncancer hazard for the child resident (hazard index = 12) exceeded EPA's acceptable hazard index of 1 as a result of the concentrations of TCE. The noncancer hazards for commercial workers and adult residents are considered acceptable as they were below EPA's acceptable hazard index of 1.

Indoor Air

The contamination of soil and groundwater by VOCs has the potential to impact indoor air in the buildings located above or near this contamination. VOCs can volatilize (vaporize) and move upward from the groundwater, through porous soils, and up towards the ground surface. The depth to groundwater at the former facility property is 105 feet below the ground surface. At this depth, contaminated groundwater probably does not affect indoor air as much as residual contamination in the soils near and underlying the building. The potential exposure to contaminated indoor air from vapor intrusion to a commercial worker was estimated to pose cancer risks (5.6×10^{-3}) which are above the EPA acceptable risk range, primarily as a result of TCE and methylene chloride. The noncancer hazard for commercial workers from exposure to indoor air was below EPA's acceptable hazard index of 1.

These risks to human health, as calculated in the Human Health Risk Assessment, indicate that action is necessary by EPA to reduce the risks associated with the observed contamination in air and groundwater.

Ecological Risk Assessment

A screening-level ecological risk assessment (SLERA) was prepared to identify the potential environmental risks associated with groundwater and soil. The results of the SLERA suggested that there are contaminants in groundwater and soils, but they are not present at levels posing significant risks to ecological receptors. Furthermore, based on the industrial nature of the former facility and surrounding properties and the minimal natural vegetation at the site, it was determined that the site does not have any valuable ecological resources. In addition, the depth to groundwater is approximately 105 feet and there are no groundwater to surface water pathways. As there are no complete exposure pathways based on an absence of a suitable habitat to support ecological receptors, it was determined that the site does not pose a potential for adverse ecological effects.

Risk Summary Conclusion

Exposure to contaminated indoor air poses risks to potential workers within the building. Furthermore, residual contamination in the soil, though not posing unacceptable hazard or risk in itself, can continue to contribute contamination to underlying groundwater and to vapor intrusion into the building. Finally, exposure to contaminated groundwater poses potential risks to human health. As such, a determination was made that remedial action should be taken to: reduce contamination in the soil to levels below cleanup objectives; mitigate vapor intrusion into the building; reduce the migration of contaminants from the soil (e.g., source areas) to the groundwater; and restore the contaminated groundwater for future use.

REMEDIAL ACTION OBJECTIVES

Remedial action objectives (RAOs) are media-specific goals to protect human health and the environment. These objectives are based on available information and standards such as applicable or relevant and appropriate requirements (ARARs), to-be-considered (TBC) guidance, and risk-based levels established in the risk assessment.

The overall RAO is to ensure the protection of human health and the environment. The specific remedial objectives identified for the site are to:

1. control/mitigate exposure to contaminated soil for current and future commercial workers;
2. remediate contaminated soil to eliminate an ongoing source of groundwater contamination;
3. reduce the possibility of the migration of site-related contaminants in groundwater;
4. restore the aquifer(s) to beneficial use; and
5. reduce or eliminate vapor intrusion into the building.

As discussed earlier, actions have already been taken to remove residual contamination from source areas. These actions include: the removal of sediments from the base of the industrial cesspool on the north side of the building in 2002; operation of the SVE system on the north side of the building (from December 2005 to the present) to remediate contaminated soils and reduce contaminant levels below the slab of the building; optimization of the SVE system on the north side of the building (in 2008) to maximize the removal of contaminants and, thereby, reduce the amount of time needed to achieve clean-up objectives; and plans for installation of another SVE system on the south side of the building (in 2008) to remediate contaminated soils and reduce contaminant levels below the slab of the building. These actions have resulted in optimizing the ongoing removal of residual contamination from the two source areas and below the slab of the building, thereby preventing the migration of contaminants (e.g., TCE and PCE) from the source areas to groundwater. These actions have also reduced the intrusion of vapors into the building. Continued operation of both SVE systems will further reduce residual contamination in soils, the migration of contaminants from soils to groundwater, and vapor intrusion into the building.

<u>Preliminary Remediation Goals</u>

Preliminary Remediation Goals (PRGs) were selected based on federal and state promulgated ARARs, risk-based levels, background concentrations, and guidance values. These PRGs were then used as a benchmark to screen technologies, develop a list of viable alternatives, and perform a detailed evaluation of alternatives as presented in the FS Report. The PRGs for TCE and PCE in groundwater and soil are shown in Table 1 below.

Table 1: Preliminary Remediation Goals

Contaminant	PRG for Groundwater (ug/L) *	PRG for Soils (parts per million)**
Trichloroethene (TCE)	5	0.47
Tetrachloroethene (PCE)	5	1.3

* Groundwater cleanup levels for organic COCs are based on the more conservative of the Federal MCLs and the New York Ambient Groundwater Standards and Guidance Values (NYSDEC TOGs 1.1.1, June 1998).
** The values shown are from *NYSDEC Subpart 375: Remedial Program Soil Cleanup Objectives, December 14, 2006.*

In addition, the EPA Indoor Vapor Intrusion Guidance was used to establish a cleanup objective for TCE in indoor air. Currently, the removal action is being performed by 145 Marcus Blvd., Inc., though EPA has taken efforts to optimize SVE operations. The removal action involves the operation of an SVE system which was designed to remove VOC contamination from the soil column around the former industrial cesspool on the north side of the building as well as vapors under the building. The removal action is operating and actively treating the sources of indoor air contamination, and it will continue to operate until the cleanup objective(s) for TCE is achieved. The cleanup objective for TCE in indoor air is 0.36 ug/m^3.

SUMMARY OF REMEDIAL ALTERNATIVES

CERCLA Section 121(b)(1), 42 U.S.C. Section 9621(b)(1), mandates that remedial actions must be protective of human health and the environment, cost-effective, comply with other statutory laws (e.g., ARARs), and utilize permanent solutions and alternative treatment technologies and resource recovery alternatives to the maximum extent practicable. Section 121(b)(1) also establishes a preference for remedial actions which employ, as a principal element, treatment to permanently and significantly reduce the volume, toxicity, or mobility of the hazardous substances, pollutants, and contaminants at a site. CERCLA Section 121(d), 42 U.S.C. Section 9621(d), further specifies that a remedial action must attain a level or standard of control of the hazardous substances, pollutants, and contaminants, which at least attains ARARs under federal and state laws, unless a waiver can be justified pursuant to CERCLA Section 121(d)(4), 42 U.S.C. Section 9621(d)(4).

The objective of the FS was to identify and evaluate cost-effective remedial action alternatives which would minimize the risk to public health and the environment resulting from soil, groundwater, and indoor air contamination at the site.

Detailed descriptions of the remedial alternatives for addressing the contamination associated with the site can be found in the FS report. The alternatives presented in the FS have been slightly modified to address new information that has become available since the FS was completed. This Proposed Plan document presents a summary of the actions already taken at the site to remediate contaminated soil, reduce the migration of contaminants from soil to groundwater, and mitigate vapor intrusion into the building. In addition, the section below presents a summary of three (3) remediation alternatives that were evaluated. A groundwater extraction and treatment remedy was also evaluated in the FS where groundwater would be extracted and treated by air stripping prior to discharge to a designed, on-site infiltration system. Based on the most recent groundwater monitoring data from sampling performed in December 2006, April 2007, and May/June 2008, this alternative, however, was not retained in this proposed plan because this alternative is not considered to be effective or cost-efficient for the relatively low levels of VOCs detected (TCE at maximum concentrations of 28 ppb in December 2006, 36 ppb in April 2007, and 24 ppb in June 2008 in the groundwater beneath and downgradient of the former facility property.

The remedial alternatives are described below.

Alternative 1 – No Action

Capital Cost:	$0
Annual Cost:	$0
Present-Worth Cost:	$0
Construction Time:	N/A

The "No Action" alternative is considered in accordance with NCP requirements and provides a baseline for comparison with other alternatives. If this alternative were implemented, the current status of the site would remain unchanged. No remedial actions would be implemented as part of this alternative. This alternative assumes that SVE operations would be discontinued. This alternative does not include institutional controls or long-term groundwater monitoring.

Alternative 2 – Operate Soil Vacuum Extraction Systems and Perform Long-Term Groundwater Monitoring

Capital Cost:	$0
Annual Cost:	$28,860
Present-Worth Cost:	$124,000
Construction Time:	N/A

This alternative involves operation of two SVE systems (one on the north side of the building and one on the south side of the building). The SVE system on the north side of the building would be optimized to extract greater quantities of VOCs and, thereby, reduce the amount of time needed to achieve cleanup goals and the time needed to operate the system. The SVE system on the south side of the building is currently being installed. Operation of the SVE systems will also mitigate the elevated levels of TCE in the indoor air. The groundwater monitoring program would be performed to provide information to continue evaluating the declining trend in COPC concentrations at and downgradient of the site, and indirectly provide information as to the effectiveness of the source control measures previously discussed.

The groundwater monitoring program would involve collecting samples from all 18 groundwater monitoring wells associated with the site. Initially, sampling would be performed from all groundwater monitoring wells on a quarterly basis. The frequency of groundwater monitoring would be assessed on an annual basis and may be adjusted based on that assessment. Furthermore, the assessment would consider whether certain monitoring wells may be omitted from this requirement (e.g., based on consecutive samples exhibiting contaminant concentrations below cleanup objectives). In addition, monitoring of indoor air would be conducted annually until cleanup objectives are met. Furthermore, testing of the SVE systems will be conducted to ensure a sufficient radius of influence to cover the building exists.

As it may take longer than five years to achieve MCLs, a review of site conditions will be conducted no less often than once every five years.

A Site Management Plan (SMP) would be developed and would provide for the proper management of all site remedy components post-construction, such as institutional controls, and will also include: (a) monitoring of site groundwater to ensure that, following remedy implementation, the groundwater quality improves; (b) conducting an evaluation of the potential for vapor intrusion and mitigation, at or in the vicinity of the former facility property; (c) provision for any operation and maintenance required of the components of the remedy; and (d) periodic certifications by the owner/operator or other person implementing the remedy that any institutional and engineering controls are in place.

Additional institutional controls would be required and may include an environmental easement/restrictive covenant filed in the property records of Suffolk County that would: (a) limit the use of the active industrial area to commercial and/or industrial uses only; (b) require that any new or renovated building or structure at the former facility property that will be occupied in the future be evaluated for soil vapor intrusion; and (c) restrict the use of groundwater at the site as a source of potable or process water unless groundwater quality standards are met.

In addition to the environmental easement, the New York State Department of Health State Sanitary Code regulates installation of private potable water supply wells in Suffolk County, adding an additional level of control. Furthermore, EPA would rely on the current zoning in the area to restrict the land use to commercial and industrial uses.

Alternative 3 – Air Sparging and Soil Vacuum Extraction

Capital Cost:	$122,000
Annual Cost:	$76,454
Present-Worth Cost:	$504,270
Construction Time:	1 year

This alternative involves the continued operation of two SVE systems (one on the north side of the building and one on the south side of the building). These SVE systems will operate in the same way as described under Alternative 2. In addition, this alternative would treat groundwater by removing VOCs from the groundwater through the operation of air sparging wells. Air sparging is the process of injecting air directly into groundwater. This process remediates groundwater by volatilizing the contaminants in the groundwater. Contaminated vapors rise through the groundwater and saturated soil into the unsaturated zone, above the water table, and below the ground surface. As the contaminants move into the soil, a SVE system would be used to pull the vapors out of the subsurface. Specifically, the VOCs would be extracted through SVE wells appropriately positioned in the appropriate zone near the air sparging wells. This alternative assumes the installation of six air sparging wells and three SVE wells; the actual number of wells would be determined during remedial design.

An ongoing groundwater monitoring program would be conducted to ensure that the concentrations of COPCs continue to decrease.

Because MCLs may take longer than five years to achieve, a review of Site conditions will be conducted no less often than once every five years.

The Site Management Plan and the institutional controls, as described in Alternative 2, will also be components of this remedial alternative.

EVALUATION OF ALTERNATIVES

In selecting a remedy for a site, EPA considers the factors set forth in CERCLA Section 121, 42 U.S.C. Section 9621, by conducting a detailed analysis of the viable remedial alternatives pursuant to the NCP, 40 CFR Section 300.430(e)(9) and OSWER Directive 9355.3-01. The detailed analysis consists of an assessment of the individual alternatives against each of nine evaluation criteria and a comparative analysis focusing upon the relative performance of each alternative against those criteria.

- Overall protection of human health and the environment addresses whether or not a remedy provides adequate protection and describes how risks posed through each exposure pathway (based on a reasonable maximum exposure scenario) are eliminated, reduced, or controlled through treatment, engineering controls, or institutional controls.
- Compliance with applicable or relevant and appropriate requirements addresses whether or not a remedy would meet all of the ARARs of other federal and state environmental statutes and regulations or provide grounds for invoking a waiver.
- Long-Term effectiveness and permanence refer to the ability of a remedy to maintain reliable protection of human health and the environment over time, once cleanup goals have been met. It also addresses the magnitude and effectiveness of the measures that may be required to manage the risk posed by treatment residuals and/or untreated wastes.
- Reduction of toxicity, mobility, or volume through treatment is the anticipated performance of the treatment technologies, with respect to these parameters, a remedy may employ.
- Short-Term effectiveness addresses the period of time needed to achieve protection and any adverse impacts on human health and the environment that may be posed during the construction and implementation period until cleanup goals are achieved.
- Implementability is the technical and administrative feasibility of a remedy, including the availability of materials and services needed to implement a particular option.
- Cost includes estimated capital and operation and maintenance costs, and net present-worth costs.
- State acceptance indicates whether, based on its review of the RI/FS reports and the Proposed Plan, the State concurs with, opposes, or has no comment on the preferred remedy at the present time.
- Community acceptance will be assessed in the ROD, and refers to the public's general response to the alternatives described in the Proposed Plan and the RI/FS reports.

A comparative analysis of these groundwater remedial alternatives, based upon the evaluation criteria noted above, follows.

Comparative Analysis for Groundwater

- Overall Protection of Human Health and the Environment

Under Alternative 1, operation of the SVE system (operating under the removal action) would be discontinued. Furthermore, this alternative would not include any groundwater monitoring. As such, Alternative 1 would not be protective of human health and the environment.

Alternative 2, by continuing the operation of the SVE systems to remove the source of ongoing groundwater contamination and building vapors, would ultimately provide full protection of human health by reducing contaminant concentrations to cleanup objectives. Alternative 3, by removing contaminants from the groundwater and by the operation of the SVE systems would also ultimately provide full protection of human health by reducing contaminant concentrations to cleanup objectives.

- Compliance with ARARs

EPA and the NYSDOH have promulgated health-based protective MCLs (40 CFR Part 141, and 10NYCRR, Chapter 1 and Part 5), which are enforceable standards for various drinking water contaminants (chemical specific ARARs). The aquifer at the site is classified as Class GA (6 NYCRR 701.18), meaning that it is designated as a potable water supply.

Alternative 1 does not comply with ARARs Alternative 2 would comply with ARARs by operation of the soil vacuum extraction system to remove the source of ongoing groundwater contamination and by monitoring groundwater to further evaluate the apparent decline in site-related groundwater contamination. Alternative 3 would remove contaminants from the soil and from the groundwater, and, therefore, reduce the amount of contaminants that could potentially migrate via groundwater transport. Ultimately, both Alternatives 2 and 3 would achieve ARARs. In fact groundwater concentrations at the site have already declined significantly, to the point where most of the wells are very close to achieving ARARs.

- Long-Term Effectiveness and Permanence

Alternative 1 assumes the discontinuance of the SVE operations and, therefore, would not provide long-term effectiveness and permanence. Alternatives 2 and 3 both include continued operation of the SVE systems. As such, Alternatives 2 and 3 are source control remedies and both alternatives would ultimately achieve remedial action objectives.

- Reduction in Toxicity, Mobility or Volume Through Treatment

Alternative 1 would not reduce toxicity, mobility or volume of contaminants through treatment since no treatment would be implemented. Both Alternative 2 and Alternative 3 would reduce the toxicity, mobility and volume of the contaminants through operation of the SVE systems. Alternative 3 would provide additional reduction in groundwater contaminant levels through air sparging.

- Short-Term Effectiveness

Alternative 1 would not pose any short-term impacts to human health and the environment associated with construction or active remediation activities as none are involved. Alternative 2 would pose no short-term impacts to human health and the environment as no additional construction or installation activities are involved. Implementation of Alternative 3 would present some exposure to on-site workers through dermal contact and inhalation from activities associated with the construction of the groundwater remediation system. In addition, under Alternative 3, some adverse impacts would result from excavation activities, noise, and fugitive dust emissions. However, proper health and safety precautions would minimize short-term exposure risks to workers as well as disturbances to the community.

- Implementability

All alternatives are implementable. Alternative 1 would be the easiest groundwater alternative to implement, because it involves no action. Alternative 2 would also be easy to implement in that it involves continued operation of the SVE systems and periodic groundwater sampling activities. Alternative 3 would be the most difficult alternative to implement in that it would require the construction of an air sparging and SVE system. The services and materials necessary for this groundwater alternative are readily available. Alternatives 2 and 3 both include groundwater sampling activities to monitor the effectiveness of the remedy.

- Cost

The estimated capital, annual operation and maintenance (O&M) (including monitoring), and present-worth costs for each of the groundwater remedial alternatives are presented in Table 2, below. There are no costs associated with Alternative 1, as it involves no activities. The costs associated with Alternative 2 are ongoing operation of the SVE systems, and implementation of a groundwater monitoring program. The costs associated with Alternative 3 are for installation of an air sparging system and a soil vapor extraction system and implementation of a long-term groundwater monitoring program. All costs are presented in U.S. Dollars.

Table 2: Cost Comparison for Groundwater Remediation Alternatives

Remedial Alternative	Capital Cost	Annual Cost	Present Worth	Construction Time
Alternative1	0	0	0	N/A
Alternative2	0	28,860	124,300	N/A
Alternative3	122,000	76,454	504,270	1 year

According to the capital cost, O&M cost and present worth cost estimates, Alternative 1 has the lowest cost and Alternative 3 has the highest cost when comparing all alternatives.

- State Acceptance

NYSDEC concurs with the preferred remedy.

- Community Acceptance

Community acceptance of the preferred remedy will be assessed and considered prior to a remedy being selected in a ROD, following review of the public comments received on the Proposed Plan.

PREFERRED ALTERNATIVE

Based upon an evaluation of the various alternatives, EPA recommends employing Alternative 2, which involves the continued operation of the SVE systems to cleanup soil contamination in the former industrial cesspools and to mitigate vapor intrusion into the building, and a long-term groundwater monitoring program to monitor the effectiveness of the source control activities. The SVE system would be optimized to maximize contaminant removal from site soils, and, thereby, decrease the amount of time required to effectively remediate contamination at the site. In addition, testing of the SVE system will be conducted to ensure a sufficient radius of influence to cover the building exists. Implementation of this alternative would continue until soil and groundwater ARARs and indoor air cleanup objectives are met.

This alternative would require additional institutional controls including an environmental easement/restrictive covenant filed in the property records of Suffolk County that would: (a) limit the use of the active industrial area to commercial and/or industrial uses only; (b) require that any building or structure that will be occupied at the former facility property in the future be evaluated for soil vapor intrusion; and (c) restrict the use of groundwater at the site as a source of potable or process water unless groundwater quality standards are met. Furthermore, EPA would rely on the current zoning in the area to restrict the land use to commercial and industrial uses.

A site management plan (SMP) would be developed and would provide for the proper management of all site remedy components post-construction, such as institutional controls, and shall also include: (a) monitoring of site groundwater (as discussed above) to ensure that, following remedy implementation, the groundwater quality improves; (b) conducting an evaluation of the potential for vapor intrusion and mitigation, if necessary, in the event of future construction; (c) provision for any operation and maintenance required of the components of the remedy; and (d) periodic certifications by the owner/operator or other person implementing the remedy that any institutional and engineering controls are in place.

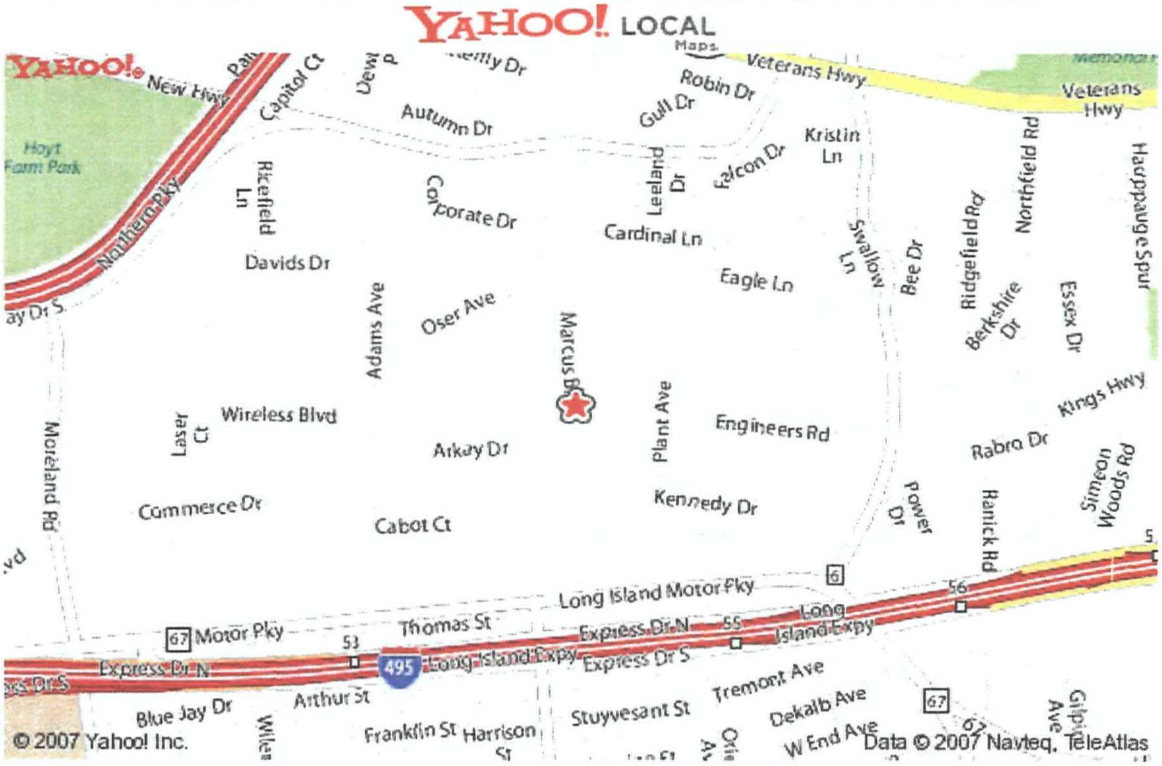
Because MCLs may take longer than five years to achieve, a review of site conditions will be conducted no less often than once every five years, using data obtained from the long-term groundwater monitoring program, until the groundwater is restored to drinking water quality. The site review will typically include an evaluation of the extent of groundwater contamination as well as further assessment of the apparent declining trend in site-related contamination. The site review will also evaluate whether indoor air cleanup objectives are met.

Basis for the Remedy Preference

EPA is proposing Alternative 2 to address the site contamination because EPA believes it will be protective of human health and the environment and will achieve the ARARs in a reasonable time frame in the most cost-effective manner. Alternative 2 includes an active treatment technology (namely, SVE), which will remediate residual contamination in two distinct source areas, and, thereby, eliminate sources of further groundwater contamination. Furthermore, groundwater data from the last few years reflects generally declining concentrations of VOCs. In general, the 2008 data shows that in the instances where TCE or PCE exceeded MCLs, the concentrations were approaching the MCL value. In addition, with the exception of the two wells noted above, the wells located on the former facility property and the downgradient wells now have concentrations that are very similar to the low concentration levels found in upgradient wells. As residual contamination in soils continues to be removed through these remedial actions, this trend of decreasing VOCs (in particular, TCE and PCE) in groundwater is expected to continue. In addition, the groundwater monitoring program will monitor the effectiveness of the source control work. Alternative 2 was selected over Alternative 3 because the extra expense of groundwater treatment in Alternative 3 would provide little, if any, additional benefit based on the relatively low concentrations of TCE and PCE found in the groundwater, which exhibit only minor exceedences of MCLs. Operation of the SVE systems would achieve soil cleanup objectives and eliminate sources of ongoing groundwater contamination, thereby reducing the time period needed to achieve groundwater cleanup objectives. Therefore, EPA and NYSDEC believe that the operation of the SVE system coupled with the decline in groundwater contaminants will effectuate remediation of the soil, indoor air, and groundwater while providing the best balance of tradeoffs with respect to the evaluating criteria. Furthermore, the preferred remedy will utilize permanent solutions and treatment technologies to the maximum extent practicable.

FIGURE 1
SITE LOCATION
145 MARCUS BLVD
HAUPPAUGE, NEW YORK

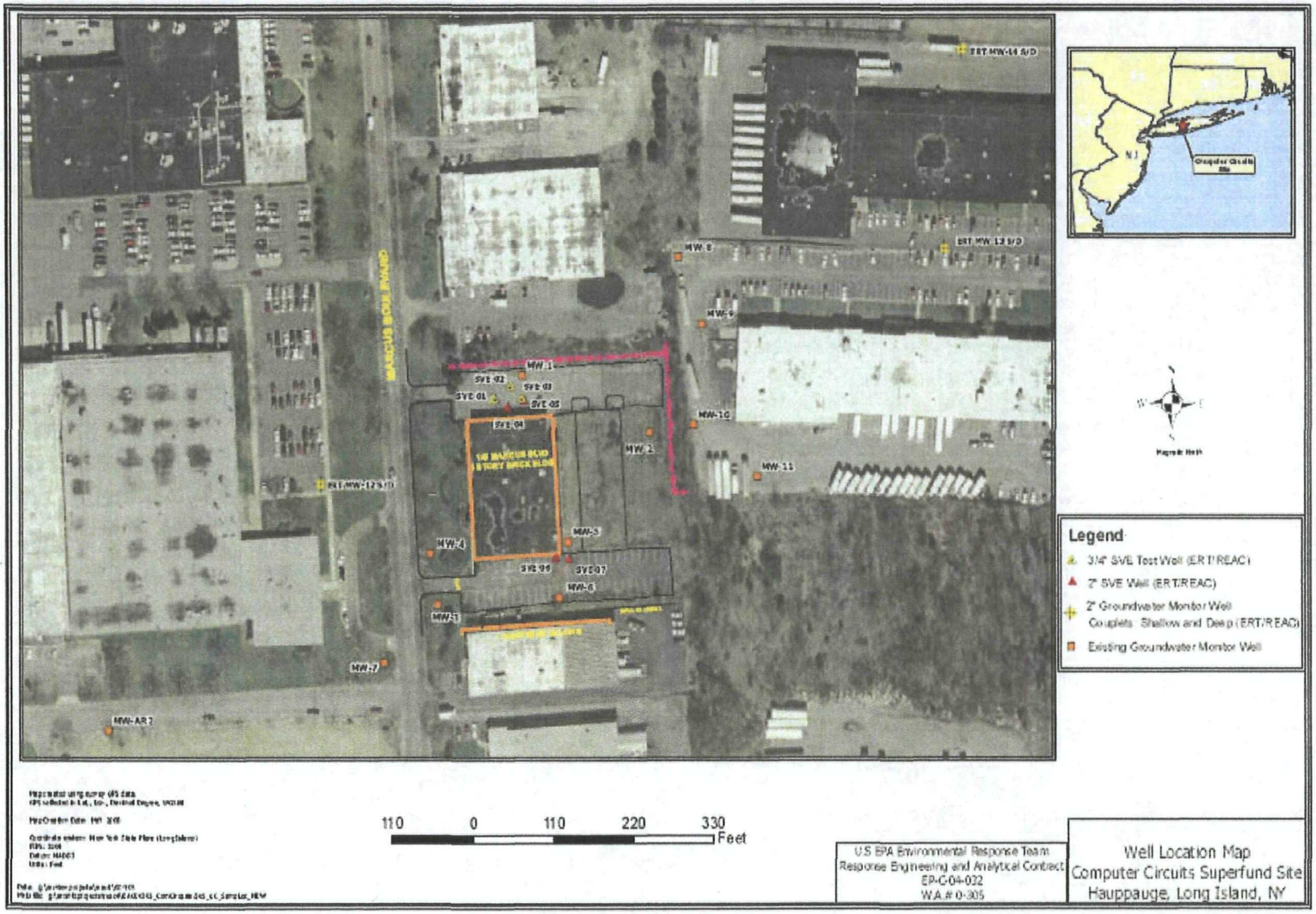
Yahoo! Maps - 145 MARCUS BLVD, Hauppauge, NY 11788, US



500113

FIGURE 2

GROUNDWATER MONITORING WELL
AND SVE WELL
LOCATION MAP
145 MARCUS BLVD
HAUPPAUGE, NEW YORK


MARCUS BOULEVARD
MW-AR2
MW-7
MW-1
MW-2
MW-4
MW-6
MW-8
MW-9
MW-10
MW-11
Legend
3/4" SVE Test Well (ERT/REAC)
2" SVE Well (ERT/REAC)
2" Groundwater Monitor Well
Couplets: Shallow and Deep (ERT/REAC)
Existing Groundwater Monitor Well
110
0
110
220
330
Feet
U.S EPA Environmental Response Team
Response Engineering and Analytical Contract
EP-C-04-032
W.A.# 0-305
Well Location Map
Computer Circuits Superfund Site
Hauppauge, Long Island, NY

RESPONSIVENESS SUMMARY

APPENDIX V-b

TRANSCRIPT OF PUBLIC MEETING
AUGUST 19, 2008
SMITHTOWN PUBLIC LIBRARY
SMITHTOWN, NEW YORK

COPY

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

COMPUTER CIRCUITS SUPERFUND SITE

PUBLIC MEETING

Smithtown Public Library
1 North Country Road
Smithtown, New York

August 19, 2008
7:00 p.m.

APPEARANCES:

CECILIA ECHOLS, EPA Community Involvement Chairperson
ED ALS, EPA Acting Section Chief
MARK DANNENBERG, EPA Remedial Project Manager
ROBERT M. ALVERY, EPA Hydrogeologist
JOSEPH A. YAVONDITTE, P.E., Environmental Engineer 3

HENRY GUZMAN, ESQ., Regional Counsel

KERRY MALONEY, Engineering Geologist

STEVEN KARPINSKI, New York State DOH

MS. ECHOLS: Good evening, everyone. I'm Cecilia Echols. I'm a Community Involvement Coordinator, Computer Circuits Superfund site. Thank you for all coming out this evening. I would like to introduce some of the key players. Here tonight we have Mark Dannenberg. He's the EPA Remedial Project Manager. Ed Als; he is the EPA Acting Section Chief, and Robert Alvey, he's a hydrogeologist. Henry Guzman, he's our regional Counsel. We have Joe Yavonditte. He's Engineering 3 for New York State DEC back there. Kerry Maloney, engineering geologist with the New York State DEC and Steve Karpinski. He's the Public Health Specialist with the New York State DOH.

We're here tonight to discuss the Computer Circuits Superfund site which is located 145 Marcus Boulevard in Hauppauge. We're going to be addressing EPA's clean up alternatives for the site.
We are in a public comment period. It began on August 8th, will end on September 6th. Within this library there is an information repository which houses all the EPA documents that are related to the site, so if you ever want to learn more about the site, you can visit this library, ask the librarian for the documents or you can come and visit us in New York City down at 290

Broadway. We also have documents there. I hope everyone has the handouts.

This is the Power Point presentation on the table in the dark. I hope everyone has signed in so in the future we have mailings for the site, you will be able it receive them. Once all of the public comments are received, the E-mail, or mailed, we will composite a responsiveness summary addressing all of your concerns and questions. I think that's it from me.

Oh, we have a stenographer. She's taking down our -- she's transcribing our speaking today. Please wait until Mark's presentation and Ed's presentations are done before questions. Thank you. Mark?

MR. DANNENBERG: Basically this is the agenda. I'll cover all these aspects. Ed will talk about the Superfund process and I'll discuss the background of the site, our remedial investigation activities as well as the results, risk assessment. Our remedial action objectives for basically it's our clean-up objectives, remedial alternatives. We considered how to clean up the site and EPA and New York State DEC and New York State DOH preferred remedy. Then we will open things up for questions and answers. Ed, do you want to do the background.

MR. ALS: I'll do the process.

MR. DANNENBERG: The comprehensive environment action, and also called Superfund. Back in the sixties and seventies there were a lot of very contaminated sites and disposal issues found which prompted Congress to pass the Superfund law in 1980. Superfund provides funding for clean-up of hazardous waste sites, also provides funding for emergency responses involving spills or hazardous substance disposal.

And also the Superfund law also empowers EPA to compel responsible parties which could be the owners of the property or the operator of the facility who did the contamination to conduct necessary response actions. Superfund process, I'll turn this over to Ed.

MR. ALS: We talked a little bit about actually the second bullet here is national priorities listing. Sites get discovered and placed on a list, which is pretty much what it says. It's EPA's priorities for hazardous waste clean-up across the country. Computer Circuitss is on the national priorities list.

Before we get into the remainder of these bullets, EPA has a couple of response authorities that it brings to bear on national priorities list sites. We have a removal program and we have a remedial program, removal program dealing with more or less short-term acute types of threats, chemical threats, you know, drums at an abandoned facility that could blow up or leak or whatever. And that's the removal program. The remedial program is more of a long-term comprehensive, you know, something got out into the environment and we have to assess it in order to see if it's something that we have to clean up and to what extent.

So the rest of the process here pretty much deals with the remedial part of the program, but I want to just let you know about the removal program because that type of response was used at this site as well as the more comprehensive remedial program. A remedial program is once the site is listed on the NPL, as Rob has up here, remedial investigation and feasibility study. We usually lump them together, but they're done pretty much as the planning of a site remedial investigation is pretty much common sense. It's an investigation study. Here we try to learn a lot about the area that the site is in and then we investigate the nature and extent of contamination.

We did this investigation of the nature and extent of contamination using sampling, analysis, instrumentation. We have a lot of different tools with which to try and figure out exactly what we have at a site. When we collect this information, we then do risk assessment. We do both human health risk assessment and we do environmental risk assessment to try to determine what kind of impacts these chemicals and their concentration could have on both people and the environment.

In general, the whole idea behind remedial investigation is to collect enough information about this site and its environment in order to support a feasibility study. Feasibility study is where you develop your objectives and your goals for this particular site. It's very site specific what your goals and objectives are. Then you basically look at remedial technology that might be appropriate to use. You look at what they call applicable and more relevant and appropriate requirements that may be from other laws or statutes that may have a bearing on this site that may have to be applied to this site in order to clean it up. And then, the guts of the feasibility study is the formulation of different alternative actions that will meet your goals and your objectives to formulate these alternatives.

Then you go through an evaluation process of each alternative using nine specific criteria that Mark will talk about when he talks about specifically how they were applied at this site. Using those nine criteria, EPA evaluates these alternatives and then EPA decides we well, we like this one. This is our preferred alternative. We then take that alternative and put it in at the a proposed plan and go out to the public and to the State of New York, or in Region 2 we have New York, New Jersey and a couple of -- Puerto Rico, Virgin Islands, whatever.

Here we go to the State of New York and we ask them what they think of the plan and we ask the public what you think of the plan. That's technically where we're at right now. We're in the thirty day comment period looking to assess public comment on the plan. I see some of you have it. I think we have copies outside if none of you have seen the plan. And depending on our EPA's evaluation of public comment during the public comment period, we then either -- we usually go ahead and do a direct decision, we can modify depending on public comment.

That brings us down to remedial designs, remedial actions, long-term operation and maintenance, eventually site deletion off the EPA. It's a general cookbook formula. Some sites have those kinds of phases, some of them don't. In general, that is our process in the remedial program. If I had to pick one of the things, it's the record of decision, that is the big document signed by the EPA. The regional director signs it. That is a big deal. We are probably within a few months of that point in order to implement remainder of the process.

That is pretty much it. I guess the next slide -- Mark will come back now and start speaking specifically about the site.

MR. DANNENBERG: Thank you, Ed. I put this map up so everybody has an idea exactly where the site is located. I hope it's clear in the back. This right down here is four ninety five. The star right here is where the site is on Marcus Boulevard. It's bounded on the south by 495, on the north is Northern Parkway running into Veterans Highway. It's pretty much halfway between the Expressway and Northern State Parkway and it's probably about over four miles from where we're sitting right now, mostly to the south.

A little bit of the history of the site itself. Computer Circuits Corporation was a manufacturer of printed circuit boards. They operated their facility from 1969 to '77. They were the first occupant of the site when the building was put up and they occupied the whole property over that eight year time plan.

Included in this manufacturing of printed circuit boards they used certain metals, acids, solvents to clean the circuit boards before other operations were done to it. These processes resulted in waste water. The industrial waste water they had discharged into cesspools or leaching pools outside of the building in the ground. The waste water, also some of the materials that they used, the waste water also contained some parts of metals, acids and solvents.

Computer Circuits Corporation was cited by Suffolk County on numerous occasions to be in violation of its permit, so the discharge exceeded what they were allowed to discharge while they were in operation. In 1976, they occupied the facility until 1977, in 1976 responding to Suffolk County's concerns and violations, they cleaned out the five industrial cesspools on the south sized the CC property. They backfilled, installed two new leaching pools to use for their industrial operations.

In 1977 the operation ceased all operations, went basically belly up. This was several months after they installed the two new cesspools, so the two new cesspools were deemed clean by Suffolk County came in to inspect them afterwards. They were only used a couple of months. They were given a clean bill of health, only the southern side. I put this slide up to tell you the history of when and how we became involved. In May 1999, the EPA placed the site on the national priorities list which Ed discussed earlier.

In September 2000, US EPA worked out with the owner of the proper a consent agreement for the owner of the property to hire a consultant and do a remedial investigation and feasibility study from 2001 to the present. The owner of the property contracted with P.W. Grosser Consulting & Engineering. They're a fairly large consulting firm out here on Long Island. Prior to the site being listed on the NPL in 1999, there were several environmental investigations that were conducted previously.

Groundwater sample, contaminated soil. I put this up here so everybody can have an idea of what was done to the site historically. All of this historical sampling data was evaluated and site history was reviewed and a plan was devised as to how to best go about the remedial version. It was deemed past operations at the site did cause soil contamination as well as groundwater contamination and the waste water discharge which contained chlorinated solvents and it was discharged, along with the waste water, into the cesspools on the south side of the building, and it not only contaminated the soil, but like any cesspools, it was able to transport downward and contaminate the water down below.

The remedial investigation that we devised to perform was conducted in several phases. The phases were intentionally consolidated so that the investigation could get more and more focused as we went along. We began with a full geophysical study of the property, went out with equipment, including magnetometry equipment, to study the site to see if there were any anomalies, and the magnetometry equipment, which it's likened to somebody walking on the beach with a metal finder looking for old coins. It's a little bit high tech than that, but that is basically what they were doing.

What we found from that, that the cesspools on the south side and there was an assess pool on the north side that were particular points of concern to us, so we performed soil sampling around a lot of the site with a specific concentration in those cesspool areas where the waste water was discharged to in addition to we conducted significant groundwater sampling to determine not just where the groundwater was contaminated, but how contaminated and the extent as to how far the groundwater flowed from the site, and performed indoor air monitoring and sub slab samples, the sub slab being the floor of the building.

We conducted soil air sampling below the foundation slab. The soil borings were drilled at various locations with specific attention to the former industrial cesspools. In January 2002, there was contaminated sediment in the cesspool on the north side. We removed that contamination, and that was removed from the site and disposed of accordingly.

I put this slide up really to give you an idea as to how often we went out and did sampling. We expanded the monitoring well network where we started with a few wells. We added additional wells in 2002 and six additional wells in 2008. We performed sampling, of in 2002, 2003, 2006, 2007 and also 2008. This I know this is kind of busy and I'm not too sure if it's really too clear anybody here. But the orange box, basically that is the building on the site property. This is Marcus Boulevard running right down there. This reddish line is the northern property line and the eastern property line. All these orange squares are where groundwater monitoring wells were positioned.

On top of the orange squares are also some yellow circles. That is where we installed six additional wells in 2008, just a couple of months ago. After evaluating the data we collected during the URI, we took a good look at the data and assessed what contaminants are present on the site. TCE, trichloroethylene. Tetrachloroethylene, also called PCE, and 1, 2 dichloroethylene, also called 1,2 DCE and 1,1,1 trichloroethane.

Inorganics, we knew that they were using metals on their products, so we also did full sampling and analysis for inorganic compounds. They were detected throughout the test area but basically considered analogous with background metals. Metals don't often trickle down to the water the same way that solvents would, so lot of that was kept in the cesspool area was excavated and removed. Soil has some metals in it. The inorganics are very common so they weren't considered.

During the RI, it was determined that the former pool on the north side of the building was contaminated. We did remove the top portion of that in 2002. We decided that there is some residual contamination in there and it continues to act as a source of groundwater contamination. Also as a side point, they also act because these compounds, the trichloroethylene and tetrachloroethylene, they're volatile compounds. They can settle down and percolate down to the groundwater and also volatilize and come up to the surface and contaminate the air in the building.

In 2005 this was a big concern to us when we did the indoor air sampling and noticed there was still some contamination in the indoor area. This was before a tenant moved back into the building.

They had done renovations in the building. The building was empty. We determined that a soil vapor extraction unit should be installed in that area. That is also called a soil vacuum extraction system. Basically that is that it does it sucks up these contaminants like a vacuum would. They're all caught up, the volatile compounds are caught up between the particles in the soil. We are also able to suck it out from below the building so it would no longer be able to get into the building.

In the spring of 2008 New York State DEC, DOH and EPA, had to conducted several meetings and conference calls. We determined that really additional work was necessary at the site. We went back out and collected a large amount of soil, gas samples from around the building and within the building. We also installed additional groundwater monitoring wells and collected additional groundwater monitoring data.

I put this so up so you can see in all of these spots where there a circle, whether blue or red, that is where we pulled soil gas samples from below the ground. The red samples indicate points underneath the building. The blue ones are around the whole periphery of the building with the preponderance of them from within the cesspools. The blue are on also outside building, the red inside the building. The indoor air contamination from this effort, we also did indoor air monitoring as well as sub-slab monitoring and we noted from the data there is indeed some additional indoor air contamination, and the sub-slab sampling indicated there was the presence of volatile inorganic compounds below the surface of the building.

We positioned indoor air canisters to collect indoor air data. The SS samples indicate a sub-slab sample where we pulling up the sub-slab sample from below the floor of the building. We noted on the north side of the building where most of these data, all of the indoor air data shows ND, not-detect. On the south side of the building we did got a couple of hits for trichloroethylene here and here. Those two canisters were co-located in the exact same area. Not as a backup as much as a confirmatory thing, so we can see if both samples show the similar data, we could kind of go to the bank on that data.

Six point-o-two and six point-o-seven micrograms per cubic meter. Those are almost identical numbers. These two, I showed this slide earlier. The difference is these green numbers. I realize there is probably not enough size to read these numbers. This is data for the groundwater samples for all of the wells. Everywhere there was a well, we sampled. Numbers range from not-detect, which is virtually zero, to about twenty parts per billion for TCB, which is the primary contaminant of concern here.

From here the EPA performs a human health risk assessment at the site. I put up the diagram to show you the main components of this. On one end is exposure to compounds, on the other side is the toxicity of the compound. Where they overlap is the actual risk that we would see or find. Based upon the data and RI we conducted a full risk assessment, which basically would estimate the risk associated with the current use and likely future uses.

In addition, the EPA bases its remedial actions on minimizing threats to human health in the environment. We use this to see what threats are there and base decisions on that assessment as to how to best clean it up so nobody, no people, none of the public or the environment is exposed.

Site specific that were identified, we did identify, and that is that I pointed out on that figure before, that there is a risk to human health in the indoor air in the building on site, in particular on the southern portion of the building in one quite localized area. In addition, we determined that no current unacceptable risks exist for human health in either the soil or the groundwater.

The remedial action objectives, let me define that term. Remedial action objective basically describes in general terms what a remedial action would need to be accomplished in order to protect human health and the environment. In this case we established objectives for soils, groundwater and air. For soils, remedial action objectives is to ensure contaminated soils are cleaned up so they no longer act as a source of either groundwater or indoor air contamination. The goal is to minimize migration of contaminants from soils to groundwater and also from soil to air.

The overall remedial ground activity to is restore the groundwater to its best beneficial use, which on Long Island is drinking water, and also to continue to monitor groundwater conditions to ensure contamination levels continue to decrease and return back to drinking water levels. Indoor air, our objective is to ensure indoor air quality is acceptable, also sources of indoor air contamination are cleaned up.

The feasibility study was conducted to determine applicable remedial alternatives, meaning what technologies could be used to clean up the contamination at the site and then compare the alternatives, literally weigh the pluses and minuses to determine what would be best. We considered a number of things, the contaminants of concern, which were the volatile inorganic compounds. The level of the compounds in the soil wear and groundwater and several relevant treatment technologies, obviously there are some technologies that would be or could be used for certain contamination. Then we put out the proposed plan which presents three of the alternatives. Alternative 1 is a no action alternative. Alternative 2 is the operation of two SVE systems, one by the cesspool on the north side and one by the cesspool on the south side to clean up the contamination, residual contamination in both areas and mitigate any vapor intrusion into the building. Alternative 3 is like Alternative 2 but it included the installation and operation of an air sparging system, which is a groundwater treatment system where basically you force air into the groundwater and bubbles create a condition where the volatile compounds get pushed out the water by the air bubbles and get pushed into the soil, and we hook up a different unit that sucks them up out of the soil.

The no action alternative is used as a baseline to prepare all other alternatives. EPA is required by law to consider a no action alternative, not because it's always or even often the best alternative, but to have it as a comparison, here is where we are right now and if it stayed the same, here are the conditions. The one thing about the no action alternative is literally there is no action. All contamination on the site would stay on site.

Alternative 2, operation of two SVE systems used as well as a vacuum system to pull the vapors from the soil into the building. Extracted vapors would be expected to contain some of these contaminants, so we would treat those vapors prior to discharging it into the atmosphere. Alternatively, I pretty much explained what an air sparging unit does, forces air into the groundwater, pushing some of these volatile inorganics out and into the soil and then we extract them from the soil.

Alternative 3 also includes the operation of two SVE systems that we presented in Alternative 2.

This is a point also, as far as groundwater monitoring, additional groundwater monitoring would not be done, obviously, in a no action alternative. Alternatives 2 and 3 would follow-up with the groundwater also, with the focus on the source areas and on the indoor air problem, but we would continue to monitor the groundwater conditions and use the monitoring wells that we have existing out there to continue to collect groundwater samples, analyze the data.

The preferred remedial alternative, EPA and State recommends selection of Alternative 2, which is the operation of the two SVE systems. We feel it's the best alternative for a number of reasons. Each of the SVE systems would remediate the contamination in two distinct source areas. During our remedial investigation, we covered the entire property and no other source areas were found. These are the two source areas that still have residual contamination. In addition, it would also remove vapors from below the building, which would prevent any indoor vapors from coming from in the future. By removing the source area, it would also prevent any ongoing contamination to groundwater from residual contamination in the soil. It also includes long-term groundwater monitors.

I pretty much covered this already. Remove and treat contaminants in soil. Ultimately reduce and eliminate the amount of vapors that are both under the building and intruding into the building, and by doing an active remedy, we would also reduce the amount of time that would be necessary to achieve the clean up goals that we established. Ed spoke before during the process where we come up with a variety of technological alternatives as to how to remediate the site and use certain criteria to compare the methods. I will go over them briefly and explain how they're relevant and relate to the alternatives that we presented.

Overall protection of human health and the environment. That is pretty much straightforward. It says when the remedy is performed, will it protect human health and the environment. In the case of the no action alternative, the answer is clearly no because contamination would remain on site. For Alternatives 2 and 3, the source areas of contamination would be reduced and ultimately eliminated. There would be no ongoing contamination of indoor air or groundwater, so it would indeed have a long-term protection of human health and environment.

Second criteria is compliance with applicable or relevant and appropriate requirements. It's kind of a weird way to say standards, certain standards that either the federal or state government or other laws might be putting out that this should also comply with something as for instance, would be the Safe Drinking Water Act has maximum contaminant levels that are allowed for certain contaminates in the drinking water that would apply to this site. The next is long-term effectiveness and permanence, does the remedy have a permanent -- is it permanent and is it effective in the long-term. Again, by removing the source areas, we would be eliminating the possibility for further groundwater contamination and indoor contamination. It is effective in the long-term. Alternative 1, no objection would not be.

The EPA has always has a preference for active treatment to reduce the toxicity or volume of contamination. Alternatives 2 and 3 do indeed actively reduce the volume of contamination that would be left. Removing all contamination to the source areas and it would satisfy this criteria. The short-term effect deals with short term repercussions during the short-term. There might be some construction on the site. You could be opening up the ground, people could be exposed to something in the ground. Construction trucks could pose certain hazards. In this case with the soil vapor extraction systems and/or the air sparging system, various things could be performed to mitigate any problems in the short-term.

As far as implementability all three of these remedies are very easily implemented. The easiest to implement would obviously be no action, because we would do nothing. The vapor extraction systems and air sparging systems are well known technologies and they would be easy to achieve.

Cost factor. I charted out what the total amount of costs are. Capital cost is the initial outlay, what it would cost to set it up. If you have to construct something, if you have to build something, annual O and M is operation and maintenance. Electrical costs, certain operational fuel costs, replacement costs for malfunctioning or broken parts. This column over here on the right, the present worth. All of these alternatives assume a certain amount of time of operating the systems and performing long-term groundwater monitoring that could extend several years out. The present worth calculates all of those years in current dollars, so we are not talking about inflation dollars, we are talking about what a U.S. dollar is worth today in 2008.

The alternative. Again it's important for the EPA and advisories for state sites to have the site buy in on the proposed remedy. State has significant input in the case of this site. There was quite of bit of back and forth on this remedy and New York State Department of Environmental Conservation and New York State Department of Health were both concurred with the remedy in the proposed plan. Here we are at the public meeting. We are looking for the public's input too, hoping that the public buys in on the proposed remedy and to consider any additional considerations or concerns of the public.

So at this point I guess I would like to open it up for question and answers. For the stenographer's benefit, please give your name and spelling.

MS. COYLE: Judith, C-O-Y-L-E. I'm very concerned. I'm a homeowner and I live on Eagle Lane and this affected some homes. I have one report they did in February, I'm really very concerned. What can they do about the homeowners as far as if you want to sell your house or whatever? If we have a problem, do you clean this up? I don't know what to say.

MR. ALS: Mark, do you know where Eagle Lane is?

MR. DANNENBERG: Yes, I do. There is a New York State Superfund site on Oser Avenue, which backs out on Eagle Lane. It's a different site with different concerns. The Computer Circuits site groundwater flows in a different direction from Eagle Lane. It does not impact the homes over near Falcon or Eagle or Cardinal so there is no impact in that area. I understand your concern.

MS. COYLE: Could you see me later?

MR. DANNENBERG: I will and we can discuss this with New York State as well, certainly.

MS. VAN GUILDER: Rose Van Guilder. I would like to ask a question. Does this mean that the decision has not been made as to which plan they are going to use?

MR. DANNENBERG: No, I guess I probably should have spelled this out a little bit earlier on a different slide. When we went out in 2005, we identified a source area on the north side of the building. Under the removal program, under our removal authority we wanted to immediately respond to that. We put in or the owner of the property installed a soil vapor extraction system to remediate the soil on the north side of the building, the cesspool area, and pull vapors on that side of the building so no contaminated air can get into the building.

The slide I showed showed that the air has been clean in that building. When we went out in 2008, it showed there were additional testing that needs to be done. It's extremely localized. It's a very small area of the building; there is an indoor issue, air issue in a portion of the building. We know the contamination is below the foundational slab of the building. There must be a flaw or conduit below the floor where vapor is able to get into the building.

MS. VAN GUILDER: Are you using Plan Number 2?

MR. DANNENBERG: I'm answering, I want to put it in a bigger light. When we determined there is an indoor air issue -- the building is tenanted. We determined that a vapor extraction system has to go in immediately. We are in the process of installing that now. It will be installed over the course of the next few weeks and it will be turned out and very quickly. That will clean up the indoor air problem. We have to continue to operate it to clean up the source area, but it will have a very rapid impact on indoor air. The levels will drop in a very short period of time.

MS. VAN GUILDER: I want to let these people know I went to the building yesterday and there are tenants in the building. I was absolutely shocked.

There should not be any tenants in the building. It is not safe enough for them to be in there. I told them before, this building is not safe enough and I started making a few phone calls. I called the Health Department. They referred me to OSHA. OSHA referred me to the Federal government. I called them at four thirty-eight but they were closed. I would have made the calls today but I had to take my belongings out of storage; it's the last I day.

I have made a video that I have with me that I will be out on all the public broadcasting channels, and I will have it on the Internet.

MR. DANNENBERG: If you can let us know when you post it on the Internet.

MS. VAN GUILDER: Certainly will. Which has to do about all hazardous substances. I have one copy with me. I will have the final copy in two days. It has to do about hazardous substances. When you have metal that is released, your immune system is destroyed. It kills animals, it kills fish, and it causes cancers, it causes tumors and causes all types of diseases.

MR. DANNENBERG: In the same breath, your body needs metals too, there are trace elements that your body needs.

MS. VAN GUILDER: The right types.

MR. DANNENBERG: Not only the right types but the right amounts.

MS. VAN GUILDER: The number that we saw indicated that building was declared, the EPA placed the site on its list of the most contaminated sites in the country in May 1999. According to this, clean-up began December 2005. I can't understand why, according to this, it states six years went by and nothing was done. According to that, that is different. Somebody made an error here.

MR. ALS: Can I just interject, Mark? Let's talk about the actual levels that we found in indoor air, what the standards are, what those standards mean.

MS. VAN GUILDER: That is good idea.

MR. ALS: Can we just go on with this? We respectfully don't agree with your position. We just want to present some more information.

MS. VAN GUILDER: I want to tell you one other thing. My son works down the street. Arkay crosses Marcus. I didn't know that he was just even a couple of hundred feet away from that building. He is suffering with terrific migraine headaches, I am so concerned about him.

MR. DANNENBERG: I'm certainly sorry to hear about his headaches. Obviously at this point there is no link between his headaches and this building.

MS. VAN GUILDER: He's been working there for years.

MR. DANNENBERG: At a different building.

MS. VAN GUILDER: How far does this area of contamination go? How far does it affect a person's health?

MR. DANNENBERG: I put up a slide earlier and noted that there is a risk associated with the indoor air in the building. That is a concern with us. That is why we're moving forward immediately to install an indoor air monitoring system. We had two canisters to confirm the data. One was six point two, the other was six point seven. Those units might be a little bit peculiar, but it's basically saying there is a certain amount of this contaminant per a certain volume number was about six. New York State has a number that is deemed safe, with no adverse effects. That number is five micrograms per cubic meter. The difference between five and six is virtually nil.

New York State's number applies to commercial properties, it applies to residential homes and it applies to day care centers. It applies across the board, across the state. That number five is considered safe without any adverse impacts for long-term chronic exposure, like thirty years.

It is not just walking into a building and walking out. That means you work in the facility or live in this home that has that five micrograms per cubic meter. You can be exposed to it several hours a day for a thirty year period, no adverse impacts would be felt. The number six is very similar to that. It is, of course, elevated above the five trigger number, which is why we wanted to respond immediately to it. But short-term exposure, something along the lines of one two or three years, this number would have no impact.

This is not just a number thrown out in an industrial area. It applies to people's homes and day care centers.

MS. KORIN-RICE: Melissa Korin Rice. What would be considered fatal?

MR. DANNENBERG: I wish I had a risk assessor with me. I don't know. I'm talking about a number that is chronic exposure over long periods of time. When you talk about something fatal I think --

MR. YAVONDITTE: (Interposing) Go to the New York State DEC Website. There is a chart talking about soil vapor. It shows you various levels. You can see where the impacts are. The standards are a thousand times lower than the known low test factor. If you look at the chart, you can see the levels at what level certain facts occur, motor function after the first, then neurological functions, then we are talking about numbers in the thousands as opposed to five or six.

MR. ALS: They're like the OSHA numbers. Like Occupational Safety and Health numbers.

MR. YAVONDITTE: Google New York State DOH.

MS. FACTOR: Navrey (phonetic) Factor. I work at 145 Marcus. I am very concerned, of course. When you came in we felt everything was fine, the levels. How is this affecting me? I've been here for a year and a half. Everybody's DNA levels can also be different. I have been saying it, since I've been working there I've been getting headaches, tiredness and it's not like because I found this coming. This is a concern to me.

I'm on a lot of medication too. It's been here for year and a half. When did you realize that? I've been breathing this in.

MR. DANNENBERG: We came in in March. April we did additional studies; at the end of May in 2008. Now you're really sitting much more on the northern half of the building. The air levels are fine in your area. We did several different phases of samples of indoor air. It's one localized area on the south side of the building. Air Why levels are not considered alarming.

MS. FACTOR: Does it go through the air circulating system?

MR. DANNENBERG: The air circulating system does do a good job of displacing the air in the building. An adverse impact for a level of six micrograms per cubic meter would be nonexistent for short-term. You're talking about a year and a half. As Mr. Yavonditte pointed out, when the state came up with a number five, there are several factors. They take several safety precautions in the process of calculating it to make sure it's erring on the side of significant conservatism.

The number six for a short-term exposure of a year and a half, there would be no adverse impacts.

MS. FACTOR: Is there any kind of testing that we can do, blood work or anything to make sure?

MR. DANNENBERG: I'm sure, I don't know analytically, I'm sure if you pull a blood sample, I mean.

MS. OSWALD: Denise Oswald. I work at Marcus, down the block at 150. I'm here because I read in it in the paper. I wasn't aware that there was a problem. Is there any possibility of contamination outside the property line?

MR. DANNENBERG: We have then been mentioning monitoring the groundwater for a significant period of time. The cesspools that I pointed out, it's contained in the soil. It doesn't move horizontally and move to the building next door. It can percolate down. The groundwater does move, the soil doesn't. The groundwater below the site is a little over a hundred feet. You have these volatile chemicals in the groundwater. Some of them could evaporate out to the soil column and slowly make their way up to the surface. It wouldn't be a hundred percent of the contamination in there. Some of it would want to stay in water, just as far as the chemistry of it.

The groundwater flows in a east-northeast direction, sort of like a straight line over to Plant

Avenue, not in the direction of Marcus Avenue. Also the groundwater contamination, we did significant sampling there. We have gotten concentrations of not-detect to about twenty parts to thirty parts per billion. By Superfund standards it's not extremely contaminated, but it's well above the drinking water established. It is a concern of the Agency. We are concerned with the groundwater, but we have seen the numbers decreased.

The whole area is a commercial-industrial area. We see numbers upgrade impact before the groundwater gets to the site that are similar to numbers below, ten parts per billion up the upgrade on the site. Those are fairly dilute. Situations, what can possibly percolate up there and get to the ground surface is a minor fraction of what is already a low number.

I don't know what is going on at 150 Marcus, but you wouldn't have to worry about 145 Marcus because of that.

MS. CONNOLLY: June Connolly, it states here that in 2005 the property owner installed the soil vapor extraction system on the north side. I think you stated earlier there was also some concern on the south side because the pools were also on the south side.

Why wasn't the same system installed on the south side of the building?

MR. DANNENBERG: That is a good question, June. We had done studies earlier in 2001, 2002. We did a significant amount of soil testing. Borings along the south side of the building. We were aware of those cesspools. We collected a large amount of soil boring data from that. We didn't see anything in the soil that was alarming in the least.

The Agency, meaning the Environmental Protection Agency as well as New York State, has seen recently that vapor intrusion is an issue in industrial areas in several parts of the country. So there has been a new focus on the data that we saw with the soil borings basically indicated that the contamination wasn't significant over there. When we came back in 2008 and did extensive sampling, we saw there is indeed, I could, I guess, use the term slightly elevated there above the New York State number in the indoor air and we realized something has to also be done on the south side.

MS. CONNOLLY: When you did the additional test borings on the south side of the building, there was no air quality testing done on the south side of the building?

MR. DANNENBERG: There were a limited number of air canisters put out by the owner in 2004, 2005 just before this other system was put in on the south side of the building. Depending on the placement of the canisters, we did not see an air problem in any other portion of the building except on the north side. It is an extremely localized area. It's a few square feet.

MS. CONNOLLY: My office is right there. It might be localized.

MR. DANNENBERG: I'm not trying to downplay that. It's a very specific area. Once again, in the bigger area of the building, the rest of the building is pretty clean. Unless the canister was put right outside your offices, it would not have picked up anything. We don't put out an infinite number of canisters in. We take our best guess and put them. We would have had a few on the north side, maybe in the corners within the center of the building and also on the south side.

MS. CONNOLLY: Were any tests done in October or November because I'm told that is the optimum time of testing done.

MR. DANNENBERG: Perhaps in 2005 I would really have to go back to the record. I can certainly contact you by E-mail and tell you exactly that over the next several weeks we are moving forward by installing the soil extraction units on the south side building. Once that is turned on, we expect the levels in the air to drop dramatically very quickly. I'm hoping to have that up and running by the middle of September and then we will go out with some canisters and position them in the same points and perhaps additional points; by coincidence, we will be doing that in October. I hadn't heard that.

MR. YAVONDITTE: The criteria for taking the sample between December and April depends on the heating system. We look at a home for that reason because it's a closed up environment. You're talking about a commercial building. An HVAC acts differently. We try to do all the samples in the wintertime. It may not have the same effect on a commercial system because the HVAC system acts differently than in the home.

MR. DANNENBERG: As a follow-up to see exactly what we expected, we expect the levels to go down dramatically very quick.

MR. RADIEJKO: Andrew Radiejko with the Suffolk County Department of Health Services. You mentioned that the current levels of contaminants in groundwater is about thirty parts per billion.

MR. DANNENBERG: That is pretty much maximum.

MR. RADIEJKO: What have you seen, because you said they decreased.

MR. DANNENBERG: We went out and did samples in 2002. About two hundred forty was a maximum level. Again, we saw larger numbers up gradient as well down gradient. We also had several not-detects in the groundwater.

What we see is sporadic hits. The trend is down. Thirty is an absolute max. What we're typically seeing is either single digit or ten or eleven parts per billion.

MR. RADIEJKO: Is that just due to the plume moving? Are you moving your wells and tracking the plume as it travels?

MR. DANNENBERG: I think being in a commercial industrial area, it's a comingled plume. We're seeing other contaminants that were not associated with Computer Circuits' operations, such as tetrachloroethylene perc as well as the trichloroethylene 1, 1, 1, TCA.

MR. ALS: You did add six new wells?

MR. DANNENBERG: We added six additional wells in the last year or so. We added the additional wells in May and sampled them the end of May into

June. They were paired. Each pair had a water table well down about a hundred twenty-five feet, a little below the top of the groundwater surface. The other one was a couple of hundred feet down. The deep wells came up pretty much not-detect. We did get one hit at about one and half two parts per billion. The groundwater wells are also pretty low.

The new wells we established and pushed further down gradient was to make a determination whether or not the plume expanded or was further down. The extraction system on the north side has contamination. This is that source area, so any additional contamination is lessened.

MS. CONNOLLY: Just a question respect to the wells because it reminded me, you put up a picture before but I couldn't tell, were those additional wells put on the site?

MR. DANNENBERG: None of them were actually on the site property. Four of them are down on the building at Plant Avenue and another pair, two of them are across the street on the Arkay property. In fact, what caused the contamination within two years was that a leak that came up -- indoor care?

MS. FACTOR: Yeah.

MR. DANNENBERG: My best guess is there is a fracture or fissure in the earth. Somehow or other vapor is coming through some conduit into the building.

MS. FACTOR: It was tested a couple of years ago and it was not there.

MR. DANNENBERG: It was tested 2005 and it was not detected.

MR. ALS: Was the detection limit that low at that time? Again, the numbers are very low.

MR. DANNENBERG: Pretty similar. If we didn't put that test canister right in that exact area we could have missed it. Yes?

MS. KORIN-RICE: That contaminated air, is it disbursed through the building, through the air filters?

MR. DANNENBERG: The ventilation system is in the building which circulates air with the outside air. No, it's a very localized area.

MS. KORIN-RICE: It can't be disbursed?

MR. DANNENBERG: It's ventilated and distributed throughout.

MS. VAN GUILDER: That means it's disbursing it.

MR. DANNENBERG: Disbursing it, mixing blending, diluting.

MS. VAN GUILDER: I wanted to ask, how do you know when to go to a building to see if there are hazardous substances or if it is being contaminated?

MR. DANNENBERG: That is part of the Superfund process, as far as identifying hazardous waste sites.

MS. VAN GUILDER: Does someone have to call in and complain?

MR. DANNENBERG: We often get calls from the public. I'm with the federal government. Suffolk County, local towns obviously understands the businesses in their own community, maybe has a better feel for that. It can be identified by the local people, with the local Department of Health. It could be identify by a building inspector or a concerned citizen that says something.

MS. VAN GUILDER: There is no system in place where all these businesses -- we know what industries manufacture certain products, and which products.

MR. DANNENBERG: There is a system in place.

MS. VAN GUILDER: I have a list on my video which we know that because of what they manufacture, produce products which cause hazardous substances. Don't we, every maybe five years, check to see if the area where we produce these products are contaminated?

MR. DANNENBERG: There are chemical manufacturing companies and pharmaceutical companies, gas stations' underground storage tanks. There are a whole large number of possible potential contaminants or contaminators. Some of them do a very good job cleaning up their waste water before it's discharged, some of them perhaps don't.

There are several systems with the state and federal government where there are programs to treat waste water before it's discharged. Suffolk County was out at the site in the sixties and seventies and they noted several violations going on and they acted to stop that. You get some people that are less responsible. But there's no way really that the federal government can go out to every single business in the country.

But we do understand the different processes that go on at these kind of manufacturing facilities and there are programs.

MS. VAN GUILDER: Let's not forget the LIPA. National Grid just paid three million dollars for a property in Bay Shore. There is a plume of one thousand five hundred feet and six hundred feet wide. They just paid three million dollars for that piece of property.

Because of that, somebody took a backhoe and dug a hundred feet wide, two hundred feet deep and exposed the contaminated air. Now they have a huge catastrophe.

MR. DANNENBERG: That sounds like a catastrophe. I'm happy to say we don't have a similar situation on this site.

MS. NOLAN: Cathy Nolan. Is it conceivable that maybe five buildings away from us there is something that is seriously contaminated and nobody knows about it?

MR. DANNENBERG: Yes, it's conceivable.

MS. NOLAN: I'm kind of feeling a little better knowing that you know exactly what is going on under neath my building. It's like knowing the sex offender lives next door to you. You don't know the guy who is not on the list who never got caught.

MR. DANNENBERG: That is a it good analogy. Until somebody goes in with sampling equipment or they're reported, there are laws on the books that regulate indoor air, that regulate operations and regulate waste water discharge. If the laws on the books are followed, you hope everything is under control. But without going into these other buildings, you don't necessarily know.

I think on the whole, I have a good trust in human nature, even corporate nature. I do believe that most of these facilities are on the up and up and self-regulate and do a good job.

MS. NOLAN: The newspaper article made it sound like it's on the top of the heap.

MR. DANNENBERG: National priority list is a list of the most hazardous sites in the country. It means, if there is a whole system as to putting a site on the NPL, National Priority List, the sites are ranked and there is a certain scoring system, and on Long Island where our sole source of drinking water is our own groundwater, our own aquifer, that is a statistical -- that is a very strong influence on that score. Saying if you're contaminating that groundwater, that groundwater is not used just for irrigation, it's used for drinking, so it would immediately score higher on that score.

MR. ALS: Let me just add to that, NPL sites have the potential to be the most hazardous sites, but even still, I'm not sure what the percentage is, but I thought I remembered something like ten percent of NPL sites ultimately have no action taken on them because after evaluating, collecting all the information and looking at it, the EPA determines that I think the number is somewhere around one in ten don't require any further actions done.

They have the potential, because when you do that evaluation, to put them on the NPL, it includes things like population densities, sole source aquifers; in other words, if those things are in place right there. If there is a bad contamination problem, we have an issue here. It turns out sometimes in those particular cases we don't have an issue because the contamination is pretty minimal.

MR. DANNENBERG: Along that same line of thought, when a site is put on the NPL it's before a remedial investigation is performed, so that a limited amount of data to make that assessment consideration, such as population density or drinking water, there is some known contamination obviously associated with the site.

MS. NOLAN: That brings me to my follow-up question which is, if you were to have discovered the site today, not in 1999, would it be on that same list.

MR. ALS: With what is known about it today?

MS. NOLAN: With the condition it's in right now.

MR. DANNENBERG: No, it would not go on the list, no.

MR. ALS: We don't list the sites, but Mark's answer is probably correct.

MS. VAN GUILDER: But the condition has been improved.

MR. DANNENBERG: We have a soil vapor extraction unit operating on the north side.

MS. FACTOR: You mentioned something to me that drinking the water out the faucet is better.

MR. DANNENBERG: I said that it's more regulated than bottled water.

MS. FACTOR: So we use bottled water.

MR. ALS: It wasn't too long ago that they found ten parts per billion of benzene in Perrier. Fact is, it's okay to drink the water out of the faucet.

MR. DANNENBERG: It's part of the public water supply. It's highly regulated. They're sampling the water on a continuous basis so you know what you have. On this total of water, this bottle of water, you don't know what is in it. (Holding up bottle)

MS. FACTOR: Is it safe to go inside this building?

MR. DANNENBERG: Six micrograms per cubic meter has no effect on in the short-term and shortly we will have the vapor extraction unit installed.

MS. VAN GUILDER: I asked Congressman King to amend the Superfund legislation act. It's a good piece of legislation. It was written in 1980; amended; 1986 and it is outdated. It takes too long to allow you gentlemen to work. It takes too long for you to do your job. It takes too long for the state to collect the money from the people who are responsible for committing the acts that they do. They all take their time. The state, the federal government has to put up the money and the offenders, they, if you're lucky enough to know who they are and they haven't moved to another country, and if they have done that, you have no way of checking the funds that the state or federal government has to pay to clean up the site or remediate the site.

MR. DANNENBERG: As far as Congressman King revising Superfund, that is a Congressional issue. That is way beyond the scope of this meeting.

MS. VAN GUILDER: I also approached Schumer. I asked both of them to work on amending this piece of legislation to make it so that it doesn't have to take ten years for the federal government to get the money back that they are laying out.

MR. DANNENBERG: Portions of Superfund are a slow and tedious process, collection of data, but there is the ability, which Ed brought up before, to do things at a quicker speed. In this case, the operator of the Computer Circuitss, the owner of that corporation basically went belly up and didn't have finances. The owner of this property has taken the reins. They paid for the remedial study and feasibility study.

MS. VAN GUILDER: That said, I have written a bill for the state legislation. Assemblywoman Ginny Field and Robert Sweeney, who is the committee chairperson for this type of thing, they're working on it. I went to Senator Trunzo, presented a bill to him as well. It is a speedier bill and it's going to have a fund where money will be set aside for them. That supply doesn't exist any more and I'm hoping they are working on it. They're going to be aggressive with this and they can make a change.

The Superfund legislation right now is just too slow. They will work with the EPA And so forth and so on. I was going to call you about it and ask your opinion and I lost your number.

MR. DANNENBERG: You have it again.

MS. VAN GUILDER: When I saw you I was so excited because I wanted to talk to you.

MR. DANNENBERG: I want to make sure everybody's concerns are addressed.

MS. VAN GUILDER: I have nothing more to say. I want to get this to you. As a matter of fact, I have a copy with me.

MR. DANNENBERG: Any other questions or concerns? Please again, my phone number, my E-mail address, if there are other questions, even outside the public comment period; obviously you can comment within the public comment period. We are looking for the public input. Don't hesitate to pick up the phone or you can certainly E-mail me questions and all the questions will be responded to in a responsiveness summary, with the time that we're issuing a Record of Decision.

MS. VAN GUILDER: One other thing, I told senators to come and be here this evening. They're in Albany. I'm sorry.

MR. DANNENBERG: Thank for your interest. Thank you for coming.

(TIME NOTED: 8:30. P.M.)

CERTIFICATION

STATE OF NEW YORK)
)   ss:
COUNTY OF SUFFOLK)

I, JUDI GALLOP, a Stenotype Reporter and Notary Public for the State of New York, do hereby certify:

THAT this is a true and accurate transcription of the United States Department of Environmental Conservation Superfund Site meeting held on August 19, 2008.

I further certify that I am not related, either by blood or marriage, to any of the parties in this action; and

I am in no way interested in the outcome of this matter.

IN WITNESS WHEREOF, I have hereunto set my hand this 26th day of August, 2008.

Judi Gallop

JUDI GALLOP

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RESPONSIVENESS SUMMARY

APPENDIX V-c

PUBLIC NOTICE PUBLISHED IN THE
NEWSDAY
ON AUGUST 8, 2008

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY INVITES PUBLIC COMMENT ON THE PROPOSED PLAN FOR THE COMPUTER CIRCUITS SUPERFUND SITE HAUPPAUGE, SUFFOLK COUNTY, NEW YORK

The U.S. Environmental Protection Agency (EPA) announces the opening of a 30-day comment period on the Proposed Plan and preferred cleanup alternative to address contamination at the Computer Circuits in Hauppauge, Suffolk County, New York. The comment period begins on August 8, 2008 and ends on September 6, 2008. As part of the public comment period, EPA will hold a Public Meeting on Tuesday, August 19, 2008 at 7:00 PM at the Smithtown Library, One North Country Road, Smithtown, New York 11787. To learn more about the meeting you can contact Ms. Cecilia Echols, EPA's Community Involvement Specialist, at 212-637-3678 or 1-800-346-5009 or visit our website at www.epa.gov/region2/superfund/npl/computercircuits.

The Computer Circuits site is listed on the Superfund National Priorities List. EPA recently concluded a remedial investigation/feasibility study (RI/FS) for the site to assess the nature and extent of contamination in site media and to evaluate cleanup alternatives for the site. Based upon the results of the RI/FS, EPA has prepared a Proposed Plan which describes the findings of the remedial investigation and potential remedy evaluations detailed in the feasibility study and provides the rationale for recommending the preferred cleanup alternative.

The preferred cleanup alternatives are:

- Operation of soil vacuum extraction (SVE) systems to remediate contaminated soils in two distinct source areas, reduce or eliminate the migration of contaminations from these source areas to groundwater, and mitigate vapor intrusion into the building;
- Implement a long-term groundwater monitoring program to monitor groundwater contamination at the site to ensure that the concentrations of volatile organic chemicals continue to decrease, and that the groundwater quality is being restored;
- On-going indoor air monitoring in the building at 145 Marcus Blvd, Hauppauge, New York to ensure that concentrations of volatile organic vapors in indoor air remain at levels that are safe to occupants.

During the August 19, 2008 Public Meeting, EPA representatives will be available to further elaborate on the reasons for recommending the preferred cleanup alternative and public comments will be received.

The RI Report, FS Report, Risk Assessment, Proposed Plan and other site-related documents are available for public review at the information repositories established for the site at the following locations:

Smithtown Library: One North Country Road, Smithtown, New York 11787
(631) 265-2072 Hours: Mon. – Fri., 9 AM – 6 PM

USEPA Region 2: Superfund Records Center, 290 Broadway, 18th Floor, New York, NY 10007-1866, (212) 637-4308 Hours: Mon. - Fri., 9 AM - 5 PM

EPA relies on public input to ensure that the selected remedy for each Superfund site meets the needs and concerns of the local community. It is important to note that although EPA has identified a preferred cleanup alternative for the site, no final decision Will be made until EPA has considered all public comments received during the public comment period. EPA will summarize these comments along with EPA's responses in a Responsiveness Summary, which will be included in the Administrative Record file as part of the Record of Decision. Written comments and questions regarding the Computer Circuits Superfund site, postmarked no later than September 6, 2008 may be sent to:

Mr. Mark Dannenberg, Project Manager
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York 10007-1866
Telefax: (212) 637-3966
Email: Dannenberg.mark@epa.gov

RESPONSIVENESS SUMMARY

APPENDIX V-d

PUBLIC MEETING SIGN-IN SHEET
AUGUST 16, 2007

EPA

Computer Circuits Superfund Site

Public Information Session
Tuesday, August 19, 2008 @ 7:00 PM
Smithtown Library

PLEASE PRINT CLEARLY

NAME	ADDRESS (with Zip Code)	E-mail	Organization
Toby Eagle	192 Maple Ave 11787	eagle_toby@yahoo.com	
Melissa Kalin Rice	145 Marcus Blvd, Hauppauge 11787	MKRLAW1@aol.com	Goldson Nolan Connolly PC
Robert M. Alvey	44 Fenimore Ave, Greenlawn NY 11740	RobAlvey1@gmail.com	
Steve Kaczinski	~~NYSDOT~~ Franklin St. Troy NY	SKICAS@[illegible]	NYSDOH
* Kerry Maloney	625 Broadway, Albany NY	kamalone@gw.dec.state.ny.us	NYSDEC
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June Connolly	145 Marcus Blvd.	JConnolly@LAWGNC.com	Goldson Nolan Connolly
Andrew Rapiejko	360 Yaphank Ave, Yaphank	Andrew.Rapiejko@suffolkcountyny.gov	Suffolk Cnty Dept. Health
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Mike DePaoli	85 Fawn LN E., S Setauket 11720	michaeldpaoli@ecsi.com	

500181

EPA

Computer Circuits Superfund Site

Public Information Session

Tuesday, August 19, 2008 @ 7:00 PM

Smithtown Library

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NAME	ADDRESS (with Zip Code)	E-mail	Organization
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Jim Yaeger [illegible]	Park Ave [illegible] Smithtown		
Merrilee [illegible]	28 Gazebo Lane 11787		
Cathleen Nolan	8 Claremont Ct Smithtown	CQNESQ@AOL.COM	
Denise Oswald	4 Sherbrooke Dr Smithtown	DENISEOSWALD@GMAIL.COM	
A. S [illegible]	10 Marion Ln	TPSAROS@GMAIL.COM	

500182

STATE OF NEW YORK
DEPARTMENT OF HEALTH
Flanigan Square 547 River Street Troy, New York 12180-2216

Richard F. Daines, M.D.
Commissioner

Wendy E. Saunders
Chief of Staff

August 8, 2008

Mr. Dale Desnoyers, Director
Division of Environmental Remediation
NYS Dept. of Environmental Conservation
625 Broadway – 12th Floor
Albany, NY 12233-7011

Re: **Proposed Plan**
Computer Circuits Superfund Site
Site #. 152034
Hauppauge, Suffolk County

Dear Mr. Desnoyers:

Staff reviewed the August 2008 Proposed Plan for the Computer Circuits Superfund site in the town of Hauppauge, Suffolk County. Based on that review, I understand that the proposed plan includes:

- Operation of soil vacuum extraction (SVE) systems to remediate contaminated soils in two distinct source areas, to reduce or eliminate the migration of contaminants from these source areas to groundwater, and to mitigate vapor intrusion into the building;
- The implementation of a long-term groundwater monitoring program to ensure that concentrations of volatile organic compounds continue to decrease; and
- Ongoing indoor air monitoring in the building at 145 Marcus Blvd, Hauppauge, New York to ensure that the SVE system is mitigating the potential for soil vapor intrusion to impact indoor air quality in the building; and
- Compliance with an approved site management plan, which will include: (a) monitoring of site groundwater; (b) conducting an evaluation of the potential for vapor intrusion and mitigation, at or in the vicinity of the former facility property; (c) provision for any operation and maintenance required of the components of the remedy; and (d) periodic certifications that institutional and engineering controls are in place and functioning as designed.

I further understand that institutional controls in the form of an environmental easement would be placed on the property that would: (a) limit the use and development of the property to commercial or industrial uses only; (b) restrict groundwater use; and (c) evaluate the potential for vapor intrusion prior to any new construction or change in use of the existing structure on site. I also understand that the Bureau will continue to have an opportunity to review data and decision documents, and to provide comments and recommendations as necessary.

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Based on this information, I believe the proposed remedy is protective of public health and I concur with the Proposed Plan. If you have any questions, please contact Mr. Donald Miles at (518) 402-7880.

Sincerely,

Steven M. Bates, Assistant Director
Bureau of Environmental Exposure Investigation

cc: G.A. Carlson Ph.D./ A. Salame-Alfie Ph.D.
G. Litwin /D. Miles / file
V. Minei/ A. Rapiejko - SCDHS
J. Yavonditte/ K. Maloney – NYSDEC
W. Parish – NYSDEC, Reg.1
B. Devine - MDO

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New York State Department of Environmental Conservation
Division of Environmental Remediation, 12th Floor
625 Broadway, Albany, New York 12233-7011
Phone: (518) 402-9706 • **FAX:** (518) 402-9020
Website: www.dec.ny.gov

Alexander B. Grannis
Commissioner

AUG 13 2008

Mr. George Pavlou, P.E.
Director
Emergency and Remedial Response Division
USEPA Region II
290 Broadway, 19th Floor
New York, NY 10007-1866

Re: Superfund Proposed Plan
Computer Circuits Site
Site No. 152034

Dear Mr. Pavlou:

The New York State Department of Environmental Conservation, in conjunction with the New York State Department of Health, have reviewed the Superfund Proposed Plan at the Computer Circuits Site and finds it acceptable.

If you have any questions, please contact Dr. Chittibabu Vasudevan, of my staff, at (518) 402-9625.

Sincerely,

for Dale A. Desnoyers
Director
Division of Environmental Remediation

cc: D. Garbarini, USEPA
A. Carpenter/M. Dannenburg, USEPA
G. Litwin/D. Miles, NYSDOH
A. Rapiejko, SCDHS
W. Parish, Region 1, Stony Brook

ec: D. Desnoyers
S. Ervolina
C. Vasudevan
J. Yavonditte
S. Shearer/S. Karpinski, NYSDOH
K. Maloney

APPENDIX VI

COST DETAILS

Cost Details: Computer Circuits Superfund Site – Alternative 2

Activity	Annual Cost Estimate (1st year)	Annual Cost Estimate (2nd year)	Annual Cost Estimate (3rd year)	Annual Cost Estimate (4th year)	Annual Cost Estimate (5th year)
Operation & Maintenance	$ 6,000.00	$6,000	-	-	-
Sample Collection	$15,000.00	$12,000	$10,000	$7,000	$7,000
Laboratory Analysis	$ 5,000.00	$4,000	$4,000	$3,000	$3,000
Project Management	$ 6,000.00	$5,000	$3,000	$3,000	$3,000
Reporting	$ 6,000.00	$5,000	$5,000	$3,000	$3,000
TOTAL	$38,000.00	$32,000	$22,000	$16,000	$16,000

Assumptions:

1. All capital costs were incurred prior to the effective date of the ROD. As such, no capital costs are calculated into this cost estimate.
2. Groundwater monitoring will continue for 5 years with decreasing frequency of sampling and decreasing number of monitoring wells sampled.
3. SVE systems will operate for two years. Indoor air monitoring will continue at reduced frequency after the SVE system is shut-off.
4. Costs associated with Project Management and reporting will decrease as activities decrease.